DLW5400-DLW5500

Digital Video Recorder
4/8/16 Channels

Dante

Installation and Operations Manual

Model Number: DLW5400-DLW5500

Description: Digital Video Recorder

4, 8, 16 Channels CIF recording

Digital Video Surveillance System

User Manual

The picture might differ according to the specification and model.
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H.264 DVR
1st Edition   :   1 Mar 2010
2nd Edition   :   1 May 2011

Thank You !

Before operating the system, please read this User Manual and retain it for future reference.

WARNING

TO REDUCE FIRE OR SHOCK HAZARD,
DO NOT EXPOSE THE UNIT TO RAIN OR MOISTURE.

The installation should be made by a qualified service person
and conformed to all local codes.

Cautions

Read Before System Operation

Follow these details to prevent material damage or personal injury.

Signs of Caution and Warning

⚠ **Warning: This sign indicates that the user could die or be seriously wounded if not used or installed properly.**

⚠ **Caution: This sign indicates that the user could be wounded or could expect property damage if not used or installed properly.**

⚠ **Warning: Do not expose the product to fog, rain or too much humid to decrease danger from electric shock or fire**.

General Warning

⚠ **Warning**

1. Use the power cord, which is supplied or recommended by the supplier, or
    it may cause fire.

2. Do not disassemble or reassemble the product.
    It may cause malfunction or fire.

3. Enquire to your vendor for repair.
    It may cause electric shock or fire if the repair is not done properly.

4. Do not touch the product with wet hands.
    It may cause malfunction or electric shock.

5. Product installation must be ensured to a professional for product installation, or
    it may cause malfunction, electric shock or fire.

6. Ground applies to video products equipped with a 3-wire grounding type plug having a third (grounding) pin.
    This plug only fits into a grounding-type power outlet.
    If grounding is not done, it may cause malfunction or electric shock.

7. Ground connection must not touch gas pipe, water pipe or telephone line.
    If grounding is not done properly, it may cause electric shock.

8. Prevent metallic foreign substance from going inside the product.
    It may cause malfunction or electric shock.

9. Do not spray insecticide or flammable spray while driving.
    It may cause fire.

10. Place the system in a open place where air ventilation is guaranteed, or
    it may cause over-heating and seriously damage the system to be fired.

11. Prevent water from instilling inside electrical parts.
    Clean with a dry towel or malfunction or electric shock could result.

⚠ **Caution**

1. Use the power cord, which is supplied or recommended by the supplier.
   The internal fan rotates at high speed and may cause an accident.

2. Do not drop, give strong vibration, or shock to the product.
   It may cause malfunction.

3. The air inhaler of the front panel and air outlet of the back panel must not be blocked during installation.
   The internal temperature of the product would be greater than allowable and could cause malfunction or fire.

4. Do not touch the product or the power cord when there is thunder.
   It may cause electric shock.

5. Do not install the product near or on top of heating source.
   The internal temperature of the product would be greater than allowable and could cause malfunction or fire.

6. Do not install the product on inclined or unstable location or where vibration could be committed.
   It may cause malfunction.

Caution about the Power

⚠**Warning**

1. Must use the outlet of the grounding to connect the power cord, or
   it may cause fire.

2. Do not connect on the middle of power cord or use extension cord.
   It may generate heat or cause fire.

3. Do not touch the power cord with wet hands.
   It may cause electric shock.

4. Keep power cord dry and protect from humidity.
   It may generate heat or cause fire. The power cord is not waterproof.

5. Hold the body of the plug while removing the power plug.
   Do not pull the power cord. Damage to the power cord may generate heat or cause fire.

6. Check the power plug regularly.
   Humidity and moderation in smoking may cause fire.

7. Remove power cord from outlet when product is not used for a long time.
   It may cause short-circuit or electric shock.

⚠ **Caution**

1. Do not turn off the power by removal of the power plug.
   To turn off the power, click the power button from the front panel.
   When the system stops abnormally, the power button might not work. Click power button for 5 full seconds to turn power off.

2. Do not cut off the power artificially, or give shock or vibration to unit while the hard disk is activating.
   It may cause hard disk failure or loss of data.

⚠ **Remarks**

Pictures and buttons are subject to be changed or modified up to different models.
Function or configuration is subject to be changed or modified without prior notice for improvement of the product.

Contents

1. Getting Started

1.1 Checking Supplied Items

Make sure that you have following items supplied with your DVR. If any of these items is missing or damaged, notify your vendor immediately. Keep the packing utilities for moving or storage purposes afterwards.

Items	Photo	Quantity
User Manual and Remote Software	(*) Quick Manual and CD	1 Set
12V D/C Adaptor and Power Cable		1 Set
IR Remote Controller	or (*) Type of controller may differ depending on the DVR model.	1 Set
Terminal Block and Rubber Mount	(*) Packed goods may differ depending on the DVR model.	1 Pair (2 Pieces) 1 Set (4 Pieces)
[Optional Item] Loop-Out Board with Video Cable	(*) You need 2 sets of 8 Ch Loop Board for 16 Ch DVR.	1 Set (For 8 Ch)

1.2   System Startup

After connecting all peripheral devices, connect power cord to the DVR for system startup.

Input USER and PASSWORD for login after turning on the system. The factory default of user and password are "ADMIN" and "1234" respectively. Admin user is to fully control the entire DVR system.

| **Note** | 1) Do not forget the administrator's password that was set for the first time. In case the password is forgotten, contact your local dealer for help. |
| | 2) Refer to the "Section 3.1.2 User" for AUTO LOGIN and AUTO LOGOFF. |

| **Caution** | It may take a few minutes to startup the system after turning on the power, in case that user sets the network configuration as DHCP mode but there is neither DHCP server in user's network nor physical network connection. |

1.3 System Shutdown

To turn off the power, Click "MENU" button and then click "SHUTDOWN" in the GUI software as below. Do not pull off the power by pulling the power plug.

The factory default password is 4 digits of "1234" as below picture.

Note User can input password by virtual keyboard, or front numeric buttons (if available).

2. Operation

2.1 User Log-in

Check the power connection.

Input USER and PASSWORD for login after turning on the system. The factory default of user and password are "ADMIN" and "1234" respectively. Admin user is to fully control the entire DVR system.

Note 1) LOGIN window will be permanently displayed in monitor as above picture until user logs in with the right ID and password.
2) If DVR is set as AUTO LOGIN, login process is not necessary.
Please refer to the "Section 3.1.2 User" for details.

2.2 Live Display Mode

2.2.1. Channel Selection

Real-time live image can be seen by easy button operation after power-on.

The images can be seen on real-time by 1, 4, 9, 16 and PIP screen. Whenever the up/down arrow button on the front panel or IR remote controller is pressed, the screen will be sequentially changed.
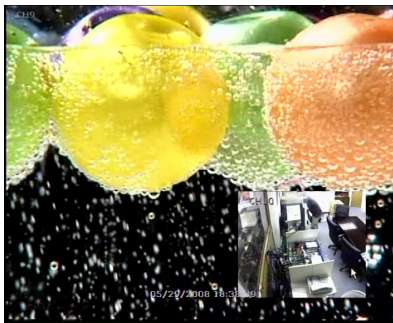

[1 Ch]

[4 Ch]

[9 Ch]
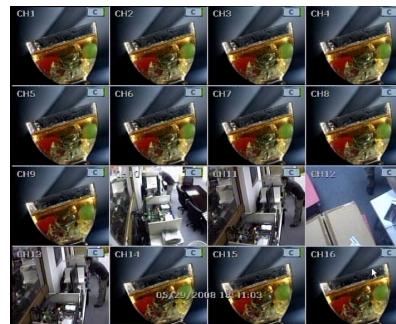
[16 Ch]

[PIP Mode]

To select channel by mouse, make double click of the left mouse button. To return previous screen mode after selecting certain full channel, make another double click of the left mouse button.

| Note | To properly select channel by mouse, user is supposed to make slow and clear double-click of the left mouse button. |

2.2.2. Icons

In real time live mode, icons or messages will be indicated on the screen to notify the system mode or status. Below are the icon categories, which are indicated on the monitor.

Icon to be shown at right-upper corner on each channel screen		Icon to be shown at right-bottom corner on full screen.	
C	Continuous Recording	HDD	No HDD, Smart Alarm & HDD Failure
M	Motion Detection Recording	E-REC	Using Emergency Recording
S	Sensor Activating Recording	PTZ	Using PTZ
C+M	Continuous + Motion Alarm Recording	CHECK FAN	Warning for exceeding temperature
C+S	Continuous + Sensor Activating Recording	SEQ	Showing sequence mode
M+S	Motion Detection + Sensor Activating Recording	ZOOM	Showing digital zoom mode
C	Emergency Recording		
(🔴)	Sensor Activated		
(🔺)	Motion Detected		
🔊	Audio Channel		
PTZ	PTZ Camera		

User can place USB mouse pointer in the bottom of the monitor in live mode. Then menu bar will be instantly appeared as below picture.

Cross icon button [+] means "instant (emergency) recording", which is useful to urgently start recording. In emergency recording, the system maximizes the full recording frames to allocate it to all the channels available equally at 1CIF resolution.

Joystick icon button [icon] means "PTZ" mode, which is useful to instantly switch to PTZ control. In PTZ mode, user can move pan/tilt and zooming-in/out by moving the mouse pointer, called virtual joystick.

User can click the right-forwarded arrow button [►] to automatically playback the latest video clip.

Pin icon button [icon] means that user can fix this menu bar, or disable fixing the menu bar by moving out mouse pointer.
If user fixes the menu bar, then this menu will not disappear even though user moves away mouse pointer out of this range.
If user does not fix the menu bar, then the menu will be shown when user places mouse pointer in this bottom area only.

Circle icon button [icon] means the HDD usage percentage by video recording. If it shows 60%, then 60% of HDD space has been used up for recording.

Note	If you can not find any colored-mark in the right up corner of the live screen mode, then it means that the system does not record any image. In this case, you need to check recording schedule or camera of the main setup menu.

2.2.3. Pop-up Menu

User can click the right button of the mouse to pop up sub-menu as below.

When "SEQUENCE" is selected, $\boxed{\text{SEQ}}$ icon is shown on the right-bottom corner of the screen and display screen will be sequentially changed.

When "ZOOM" is selected on full screen mode, digital zoom function is activated and $\boxed{\text{ZOOM}}$ icon is shown on the right-bottom corner of the screen. In zoom pop-up menu, user can select ZOOM-IN or ZOOM-OUT and exit to normal live display mode by selecting ZOOM EXIT.

"NO SIGNAL" is shown on the display screen when no camera is connected or camera is disconnected on a certain channel. When camera is disconnected, warning sound shall be generated depending on the system setting. Admin user can set different level of authorization for each user. If a certain user is not allowed to view a certain live and playback channel, then no image is shown on the display screen as below.
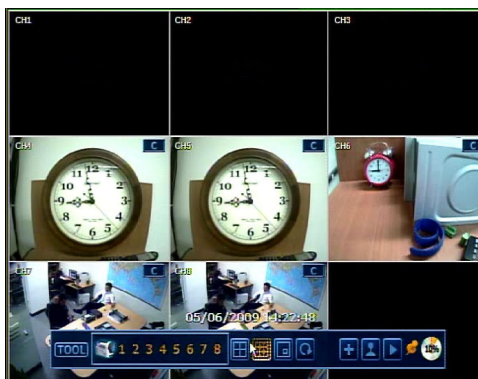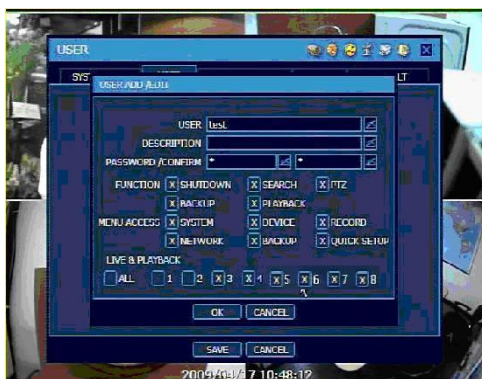
2.3   PTZ Operation

User can get into PTZ mode by clicking right button of mouse and selecting "PTZ" in the pop-up menu as below, or select joystick button $\boxed{\text{♟}}$ in the menu bar appeared in the bottom of the main screen.

In PTZ mode, user can control PTZ operation with USB mouse.
While pressing the left button of mouse, user can drag the mouse pointer to up/down or left/rightward to move pan/tilt position of the camera. If user moves the mouse pointer long away from the center position of the main screen, the PTZ camera moves at faster speed. User can also move zoom-in/out by rolling the wheel of mouse to up or downward.

Note	Full PTZ functions are available by using USB mouse, IR remote control, or keyboard controller.

For focus control in PTZ screen mode, user can click right button of mouse again to get the pop-up menu as below picture. Default mode is to tick "ZOOM". Thus, user can tick "FOCUS" to switch the wheel function of mouse from zoom-in/out to focus. Then, user can control focus by moving the wheel of mouse.

In the same way, user can select preset button or exit PTZ screen mode.

Note	User will see numeric pad to select "Preset" number, once after user set a PTZ protocol in setting menu.
	Maximum Preset number is 255 but it can be restricted by the number that PTZ camera supports.

User can automatically switch PTZ camera position according to the sequence of preset setting by using GUARD TOUR function, though the connected PTZ camera does not support it. "GUARD TOUR" on the pop-up menu can be enabled after changing to full screen for the channel that the PTZ camera is connected to. Please make sure that PTZ camera setting is correct, otherwise, "GUARD TOUR" is shown as disabled.

Caution	Depending on PTZ camera, some preset positions might be skipped in the case that the PTZ camera cannot mechanically move or control focus within the interval time set by DVR. In this case, it is recommended to make setting of interval time a little longer.

2.4   Freeze Mode

Click the right button on the mouse and select the FREEZE mode on pop-up menu while viewing live image, then live image pauses, but system clock (date/ time information) continues running. Open pop-up menu by right-click on the mouse and select the FREEZE mode again to resume the live view.
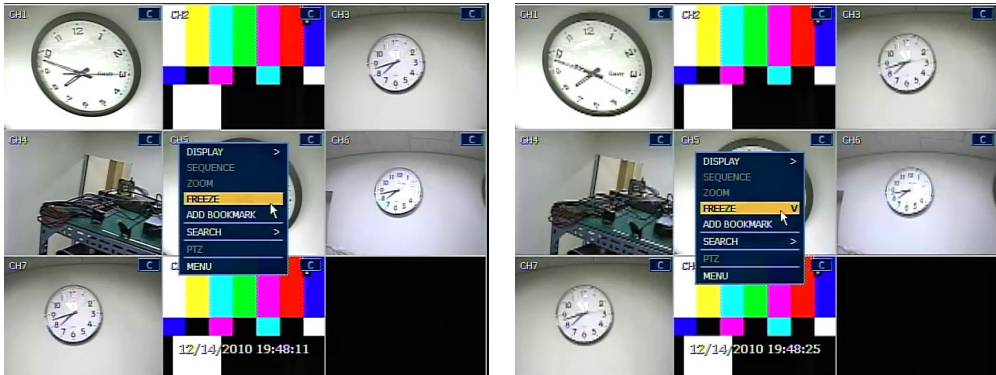
2.5   Add Bookmark

Click Bookmark button to save the current showing image, including description under live and playback mode.
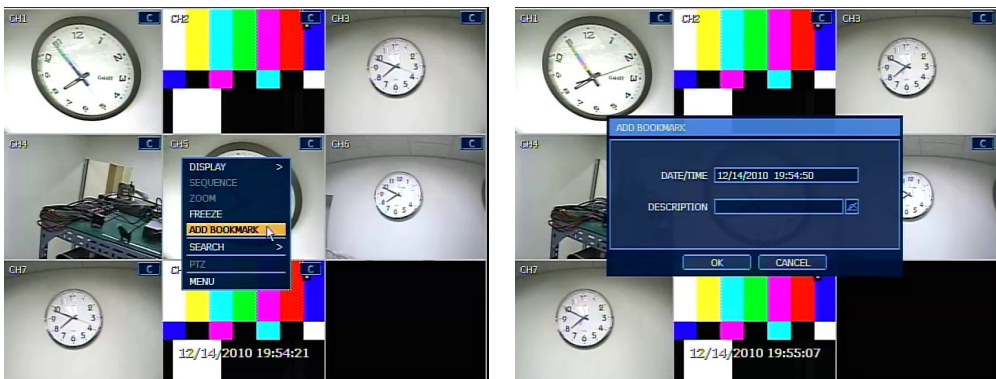
2.6   Playback Recorded Images

To playback recorded image, press Play button from the Front Panel or IR Remote Controller. Press the Play button and the latest recording image will be playback.

It is easy to use USB mouse or the Front Panel's Jog/Shuttle to playback recording files. Turn the Jog and the recorded files can be seen backwards or forwards. Turn the Shuttle and the playback speed can be controlled 2, 4, 8, 16, 32 times while playback backwards or forwards.

User can click the right-forwarded arrow button to automatically playback the latest video clip. In playback screen, user can make various playback modes, make an instant manual backup

(archive), go to calendar search mode, change channel, and change screen modes.   User can make a click of the left mouse button in colored-time bar to move white-vertical line that represents playback time.

2.7   Quick Backup during Playback

User can easily archive video while he/she watches video playback.
In playback mode, user can press "ENTER" button in the front panel to set archive "start" time. After pressing this "ENTER" button, user will see "Quick backup starts" in right bottom of the playback monitor. Once "Quick backup starts" message is shown, user can keep playing back video until user wants to finish archiving, and then press the same "ENTER" button again to set backup "end" time. Then, backup menu window will be popped up and user can select the backup media like CD/DVD or USB thumb drive, and execute archiving.

Press "ENTER" button to set "start" and "end" time during video playback.

Button type may be different depending on the DVR case.
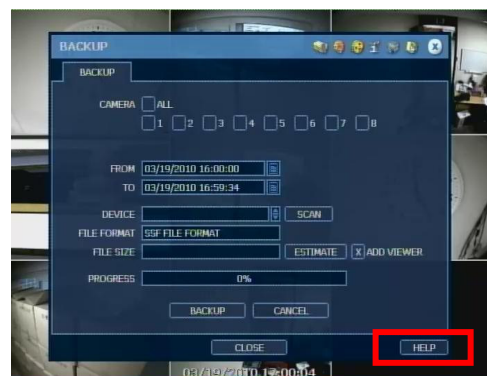
Note	"HELP" button can help you understand how to setup several important settings. For example, if you need help about how to set Backup, click "HELP" button at the right bottom of the menu.

2.8   Search Recorded Image

2.8.1. Calendar Search

The user can select date and time to search for a certain file within the recorded image.

User can move the white-vertical line to the time that user wants to search.
The colors of the time bar are different by each recording mode. Please, refer to section 4.3.2 for details on colors. Time bars in color shows by 4channel group.

"*" mark in date as above picture means that there is a video data recorded.

2.8.2. Search Date/Time

Enter the desired date and time for the user to playback the recorded image.
Use the arrow button to move to each day/month/year and time category for selecting
second/minute/hour/month/year.

2.8.3. Event Log

The Event log search is used to find particular event, quickly and easily.
User can copy this event list to USB memory device in text file format.

Once USB memory stick is put via USB port, user must press "SCAN" button to detect it, and
then press "EXPORT" to copy the log information to the media.
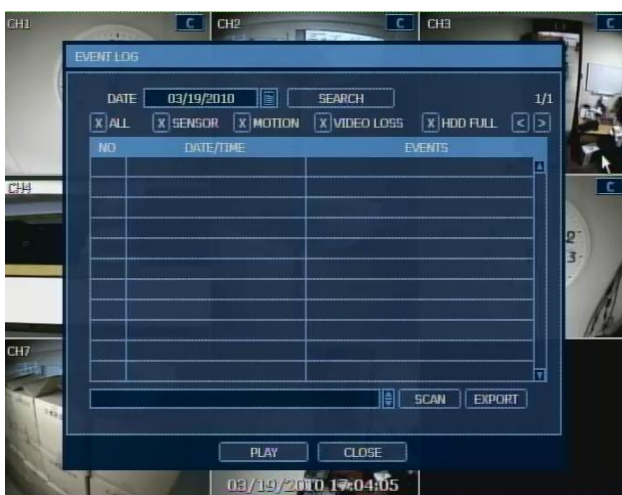
To see particular event of activated time, move the arrow button of the Front Panel or Remote Controller to the desired time range.

Following is the category indicated on the Event Viewer.

1. Alarm by Sensor
2. Alarm by Motion
3. Alarm by Video Loss
4. Alarm by HDD Full

Note In case the Alarm does not activate even though the alarm input setting had been done, check the alarm connection port of the product's rear panel.

2.8.4. System Log

The system log search is used to find particular system log information, quickly and easily.
User can copy this event list to USB memory device in text file format.

Once export is completed, user can find a date folder created in USB thumb drive.
There is "system.log" file stored in the date folder.
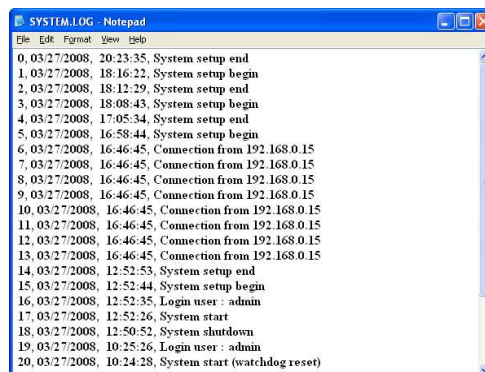
Following is the category indicated on the system log viewer.

1. Log by system
2. Log by setup
3. Log by network

Note 20 numbers of log record will be shown on one page of the [System Log] and [Event Log] window. User can click the arrow icon to search the log records on another page.

To see the corresponding list of [System Log] and [Event Log], user needs to click SEARCH button after selecting desired date and event type.

2.8.5. POS

Input the search information (channel #, date, time & keyword) and then click [SEARCH] button to get the list. If no keyword is input, system will display all data during designated time period. Click [PLAY] button to display the searched video image and POS data as well.
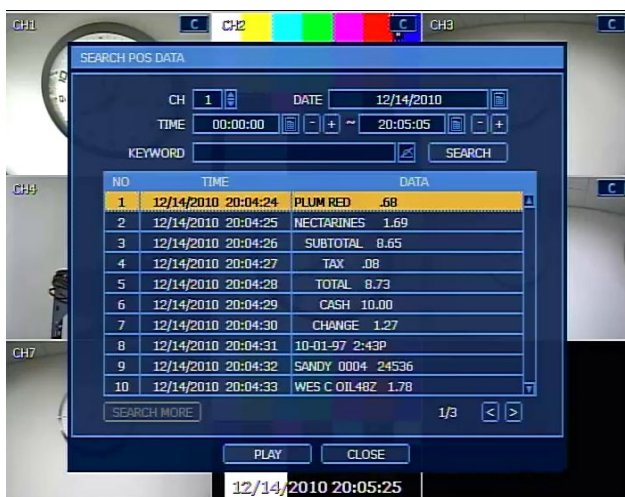
2.8.6. Bookmark

Bookmark data can be checked, modified and deleted. Select one of them in the list and click [PLAY] button to display the correspondent video image.
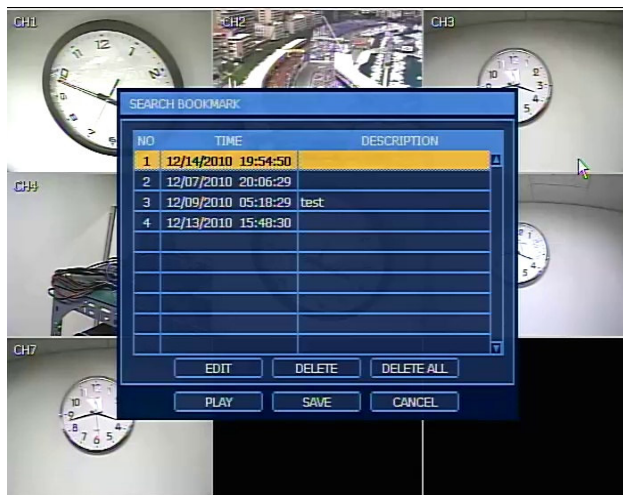
2.8.7. First Data

Go to the first screen of the recorded image. This is the oldest image recorded.

2.8.8. Last Data

Go to the last screen of the recorded image. This is the latest image recorded.

Note   User can press "SEARCH" button in the front panel to get the SEARCH pop-up menu as below. In this menu, full search function by using front key buttons is available.
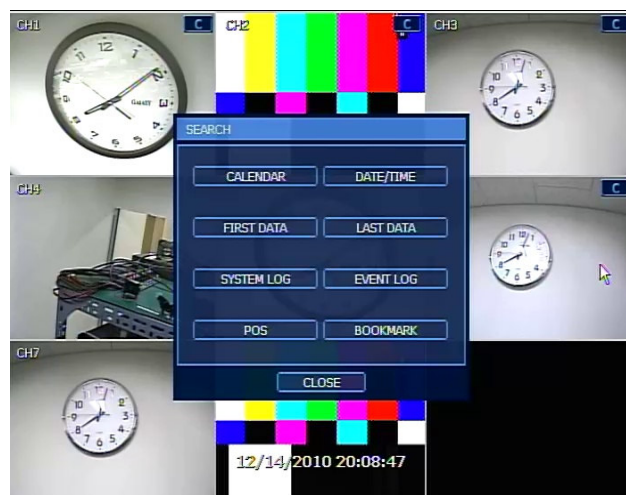
2.9   DST Setting and Image Playback

During DST (Daylight Saving Time) period, DVR time clock has to be adjusted according to regional time zone. That is, DVR time clock will be shifted by one hour after DST setting while DVR will restore the time clock to normal after DST finishes.

To make DST setting on the DVR, go to the menu of SYSTEM > SYSTEM INFO and click "DATE/TIME" to get the DST setting window as below. User can setup DST "Begin & End" time after checking "USE DST" box.
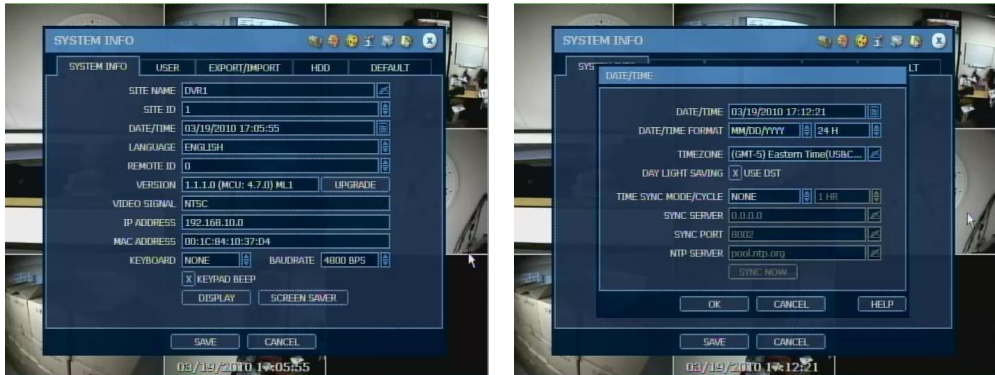
There is an hour overlapped data when DST finishes. Such period of hour will be indicated in Blue color in Intelli-Search Bar on playback mode.

When user click on such overlapped period, a message of "Data Selection" will pop up, then user can select whether to play DST data or Non-DST data.

Click OK to play DST image.   Click CANCEL to play Non-DST image.

["DST" image is displayed on screen]   ["Non-DST" image is displayed on screen]

3. Setting

General setting structure consists of "System", "Device", "Record", "Network", "Backup" and 'Quick Setup" as below.

Main Classification	Sub Classification
SYSTEM	SYSTEM INFO
	USER
	EXPORT/IMPORT
	HDD
	FACTORY DEFAULT
DEVICE	CAMERA
	AUDIO
	SENSOR
	MOTION ALARM
	EXTRA ALARM
	PTZ
RECORD	CAMERA
	SCHEDULE
NETWORK	NETWORK
	DDNS
	NOTIFICATION
	POS
BACKUP	MANUAL BACKUP
QUICK SETUP	QUICK SETUP

3.1 System

User can find the menu button in "TOOL" of the menu bar or pop-up menu of mouse right button. User can move mouse pointer from "System" through "Quick Setup" to instantly look around the sub-menus in the menu screen.

3.1.1. System Info.
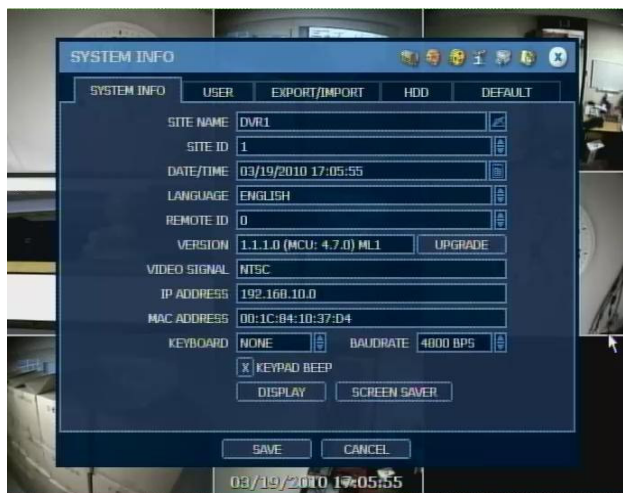
SITE NAME
User can designate the site name by using virtual keyboard as below.
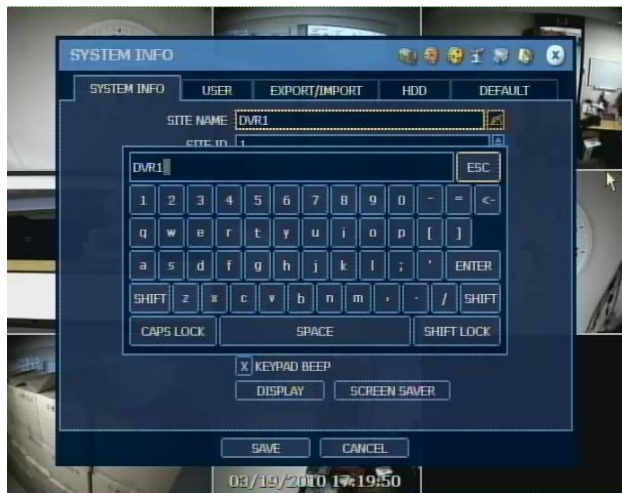
SITE ID
User must setup SITE ID to match with the ID setting of keyboard controller, if user wants to use it to control DVR.
User also needs to select the correct model of keyboard controller and BUAD RATE setting.

DATE/TIME
User can make various settings such as time zone selection, DST (Daylight Saving Time) and time sync mode.
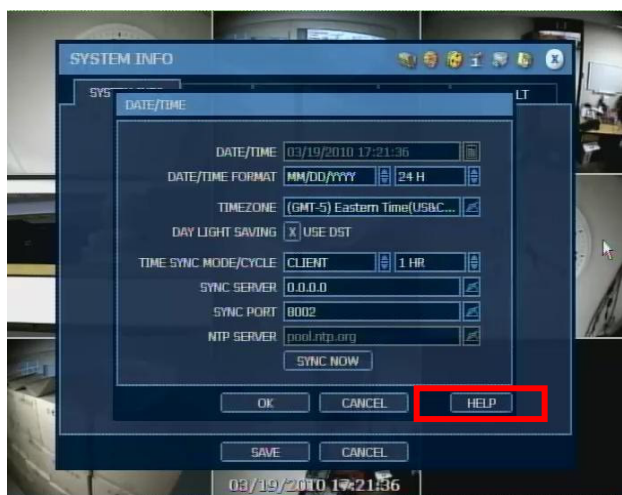
Note "HELP" button can help you understand how to setup several important settings.
For example, if you need help about how to set Date/TIME, click "HELP" button at the right bottom of the menu.

TIME SYNC MODE
There are three types of time sync mode.

- Server Mode
  The operating DVR is set as a Time Sync Server, which can synchronize the time clock of another DVR(s) connected over same network environment.
- Client Mode
  The operating DVR is set as one of the client DVR(s). Input the IP No of designated DVR or RemoteManger P/C (RMS) or Central Management P/C (CMS) as a Time Sync Server in "SYNC SERVER", then DVR time clock is synchronized with Time Sync Server by interval time set in "TIME SYNC CYCLE".
- NTP Mode
  NTP server is one of standard time servers available on Internet and it is recommended to use "pool.ntp.org". If you want to activate this mode, you have to correctly set the TIME ZONE of your local area and then click SYNC NOW.

LANGUAGE
User can select the language according to the country or user's preference.
DVR supports three different packages of language as below. If you can not find your wanted language, then contact your dealer to get the right package of language.

- Multi-Language 1
  English / French / German / Dutch / Italian / Spanish / Portuguese / Hebrew
- Multi-Language 2
  English / Russian / Turkish / Hungarian / Polish / Slovak
- Multi-Language 3
  English / Simplified Chinese / Traditional Chinese / Japanese / Korean / Thailand

REMOTE ID
User must setup REMOTE ID to match with the ID setting of IR remote controller, if user wants to use it to control DVR.

UPGRADE FIRMWARE
User can easily upgrade the system firmware via DVD/CD/USB Memory Stick/FTP server
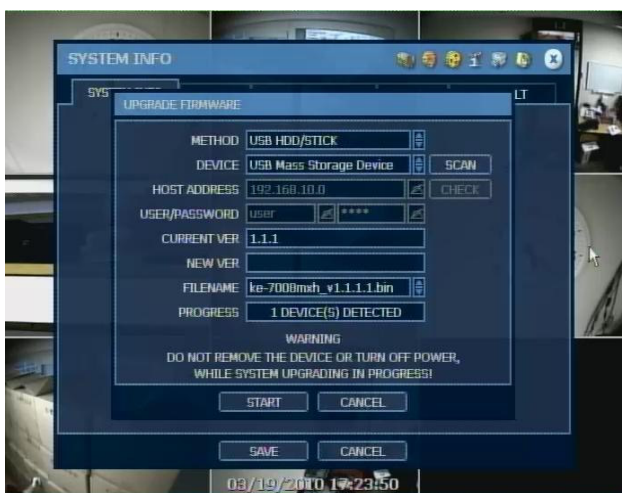
Caution	**Do not click CANCEL button during firmware upgrade. It may cause serious damage on the system !!!**
	The setting value might be changed to that of factory default in case that there are a lot of changes between new firmware and existing firmware in functions, etc. Therefore, it is recommended to check the setting value and operating condition of the DVR after firmware upgrade.

Procedure	**How to upgrade system firmware by using USB memory stick**
	1) Put USB thumb-drive which was formatted by FAT/FAT32 in any USB port of DVR that shall be compatible with USB 2.0 version
	2) Once the system detects the thumb-drive, user can see a brand or model name in "DEVICE" after pressing "SCAN" button.
	3) Select DVR name and version to be applied, and then click "OK" to confirm.
	(*) It is not allowed to use the partitioned USB memory.

[Automatic firmware upgrade through "PUSH ALERT"]

1) Select METHOD as "FTP".
2) Default FTP information operated by manufacturer (Host address, username and password) is shown as below. User must have prior consultation with the manufacturer if he wants to operate his own FTP server
3) Enter your convenient time at ECHECK TIME and then click [SAVE] button.
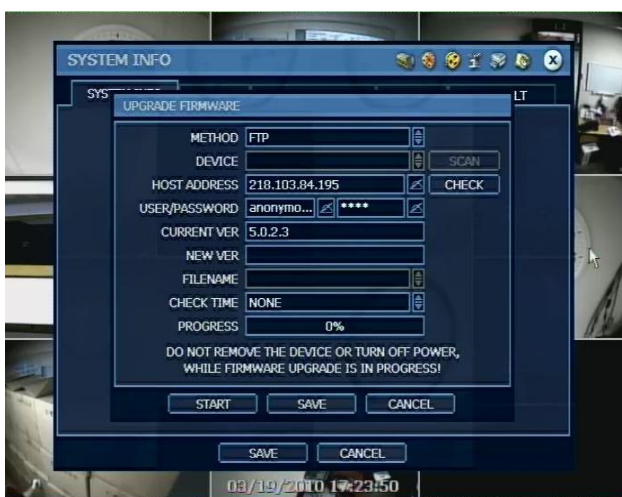
4) The system will regularly check whether the latest version of firmware is available at FTP server and generates alert message if the latest version is found.
5) Click [OK] button to proceed automatic firmware upgrade. After completed, the system will reboot
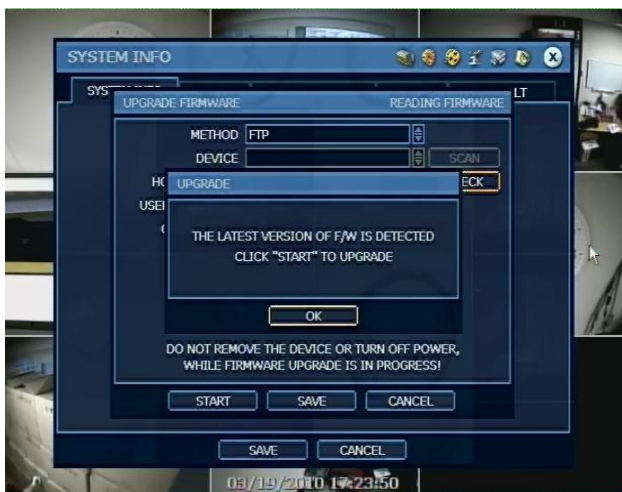
VIDEO SIGNAL
Select the right video signal (NTSC or PAL) according to the country. **This setting should be matched with the [NTSC/PAL Selection Switch] located on the rear panel**. Video images might be heavily shaking and blinking in probably black & white if NTSC/PAL is not properly set.

MAC ADDRESS is the unique identity number for each system. Use can select **VIDEO SIGNAL** (NTSC or PAL) by moving selection switch on rear panel of the equipment.

KEY BOARD
When the external keyboard controller is in use, select the right model and corresponding baud rate.

KEY PAD BEEP
User can turn on or off the beeping sound of key pad.

DISPLAY
User can set sequence dwell time, spot-out dwell time, spot-out channel, camera pop-up and OSD display on the monitor as below picture.
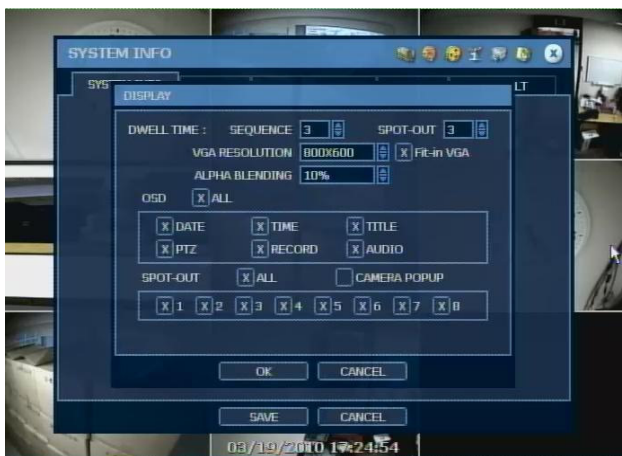
VGA RESOLUTION

The system supports three kinds of video resolutions : 800x600, 1024x768 (default) and 1280x1024. User needs to set the proper resolution in accordance with the monitor resolution.

Fit-in VGA is to get the proper edge alignment of display image depending on the monitor to be used. In case that edge part of display image is cut off on the VGA monitor, then try to change the setting of "Fit-in VGA" by checking or unchecking.

> The position of icon is changed depending on the setting.
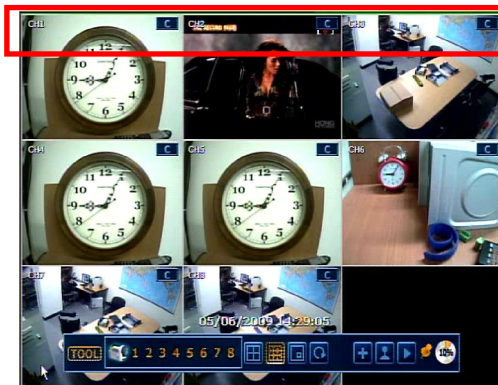
[Fit-in VGA is checked]

[Fit-in VGA is not checked

ALPHA BLENDING is the transparency level of the menu screen. 0% means no transparency at all.

SCREEN SAVER

To make SCREEN SAVER setting on the DVR, go to the menu of SYSTEM > SYSTEM INFO and click "SCREEN SAVER" as below. User can select CRT and/or VGA by checking the boxes and set the WAITING TIME, after that the monitor will be converted to sleeping mode.
If you want to recover monitor display, select CRT and/or VGA on the menu and then press any key button on the front panel or remote controller.
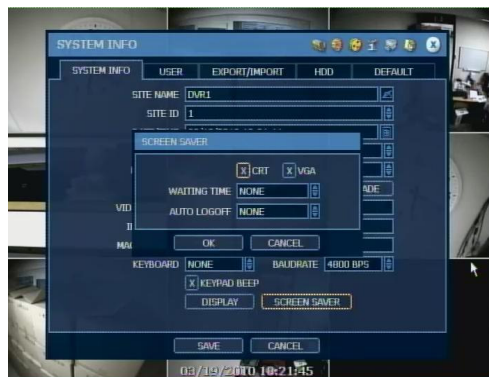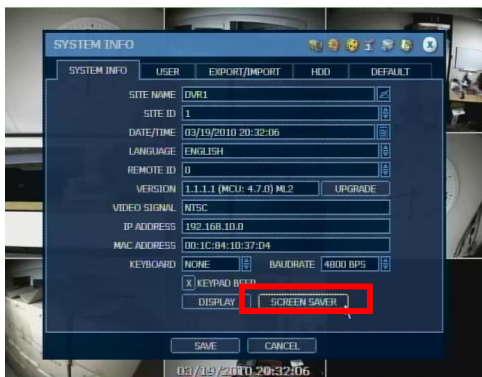
| **Note** | Users can select WAITING TIME from NONE, 1,2,3,4,5,6,7,8,9,10,20,30,40,50, up to 60 MIN. SCREEN SAVER may not work during firmware upgrade, HDD format and data backup process. DVR continues to record while SCREEN SAVER is activated. Regarding "AUTO LOGOFF", refer to the USER setting. |

3.1.2. User

The ADMIN user (default password is 1234) has got the full authority for system setting, and can change the system password or assign different permission level to each user.

FUNCTION   : shutdown, search, PTZ control, backup and playback.
MENU ACCESS   : system, device, record, network, backup, and quick setup.
LIVE & PLAYBACK : live & playback channel
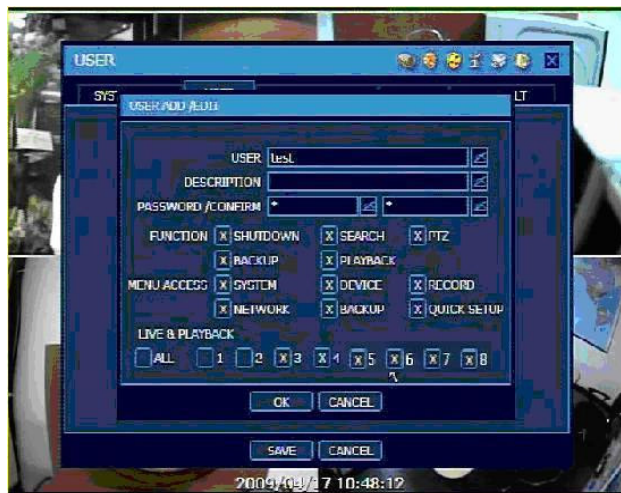
| **Note** | Total number of users including administrator is 16. |

Click OPTION button to make setting of "Auto Login & Auto Logoff" function.
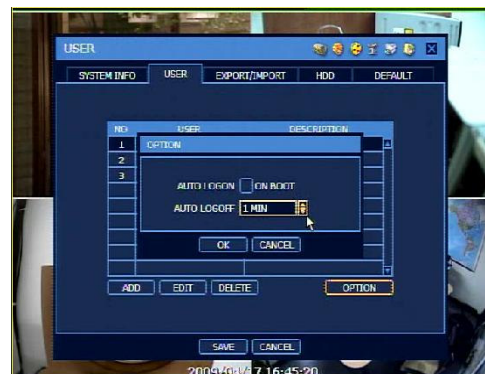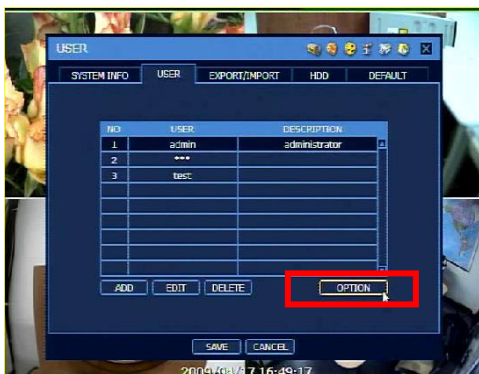
AUTO LOGON and AUTO LOGOFF
If user selects "On Boot", DVR does not request to input ID and Password during system rebooting. On the contrary, if user selects" Auto Logoff" and sets the time, DVR will go to live display mode just after the setting time. User has to login again by input of ID and Password to control the DVR.

LEVEL OF USER AUTHORIZATION
The administrator can control full function of the system (DVR and RemoteManager S/W), and add the New User with a different authorized level and also delete/edit User details.

- **Setting Authorized Level at DVR**
  Go to the menu of [SYSTEM > USER] and click [ADD]. You can add or edit user details.

Example : How to set a User with "Live Monitoring only"

1) Add a new user name, description and password.
2) Disable all options in [FUNCTION] and [MENU ACCESS].
3) In [LIVE & PLAYBACK], select channel(s) for live monitoring, and click [OK].
4) A new user has been added, and click [SAVE].
5) To verify this limited function, go to the menu of [TOOL > USER] and login as the User set as above. User can get the live images. However, when user clicks Playback button or select any other function, warning message of "Permission not granted" will pop up.
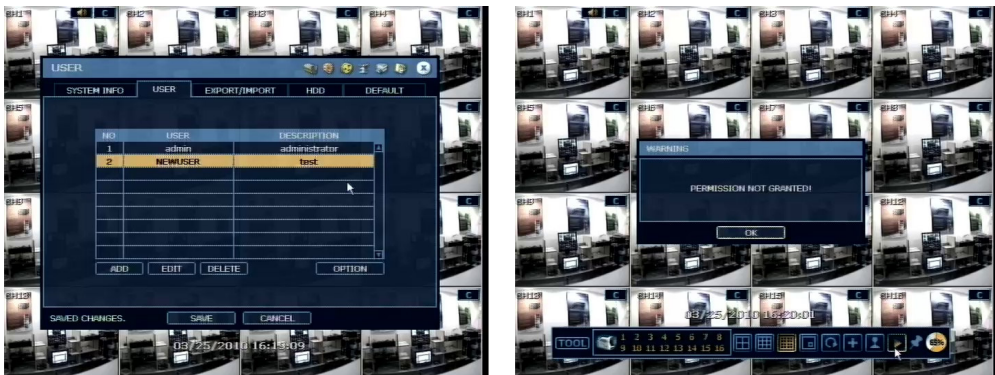
- ● **Setting Authorized Level at RemoteManager S/W (RMS)**
  Level of authority for the user is linked up between DVR and RemoteManager. If a user has been restricted for certain permissions in DVR operation such as "Live and Playback of each channel, Search, PTZ Control and Backup", then those restrictions will also be applied for same user when operating RemoteManager.

  .

  Example : How to set a User with "DVR Site Registration only"

  1) Click DVR Site registration Icon to open Site Manager.
  2) Select [User List] in Site Manager, and then select a certain user to assign authority level.
  3) Tick the function you want to assign in User Property, then click OK.
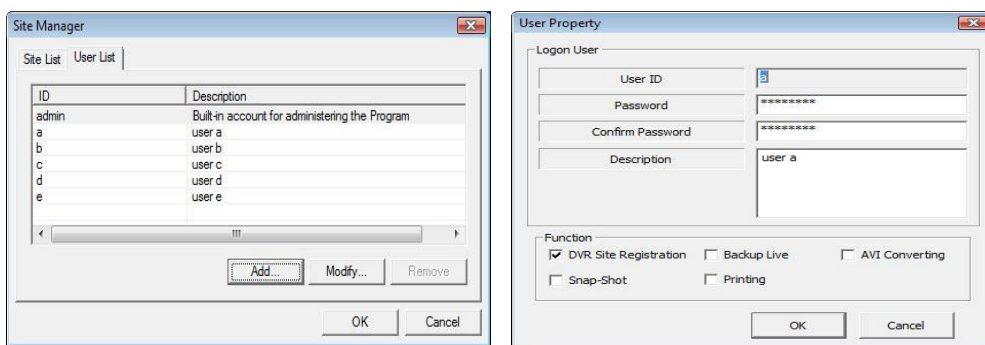
Note	User in RemoteManager's User List
	1) The authority of a certain user at RemoteManager is governed by the permission level set in both DVR and RemoteManger.
	2) Remote user should be pre-registered in DVR with designated permission level. If user has been registered in RemoteManager only (not in DVR), then such user can not be connected to the DVR via RemoteManager.

3.1.3. Export/Import

User can copy and paste the system configuration values in this menu. "Export" means when user want to copy the setting values of this system to USB memory devices. "Import" means when user want to call up the setting values of other system from CD/DVD/USB memory devices. During import process, make sure that the F/W version of source DVR has to be same as the one of target DVR which user wants to import setting values to.

3.1.4. HDD (SATA HDD)

User can select "Overwrite" or "Stop recording" when HDD becomes full and also can easily format new HDD or existing HDD by ticking in the check box.
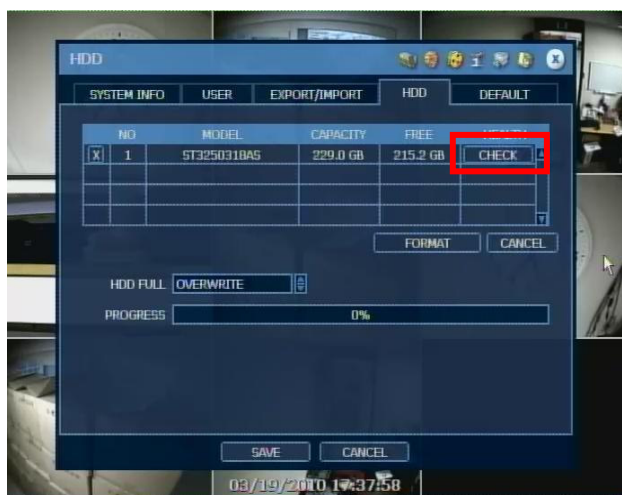
HDD CHECK
Click CHECK button of each HDD to open the window of DVR HEALTH CHECK. User can see full information of each HDD such as **model name, serial no, capacity, bad sector ratio, life time (used time) and temperature.**
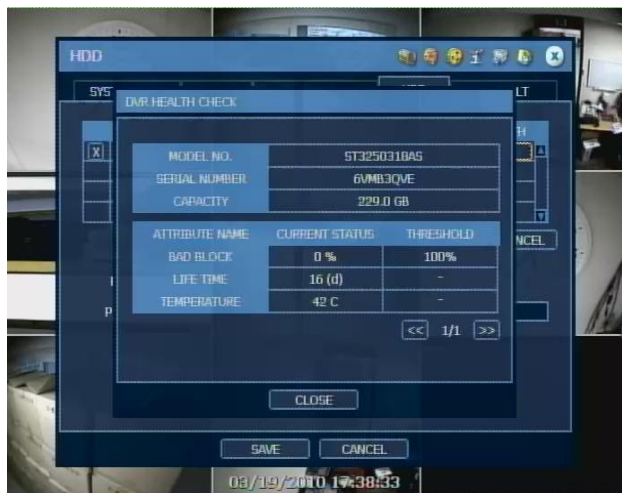
HDD FORMAT

If system resources are occupied such as network connection or image playback during format process, format may be failed. In this case, it is recommended to reboot the system to release system resources and then try to format again.
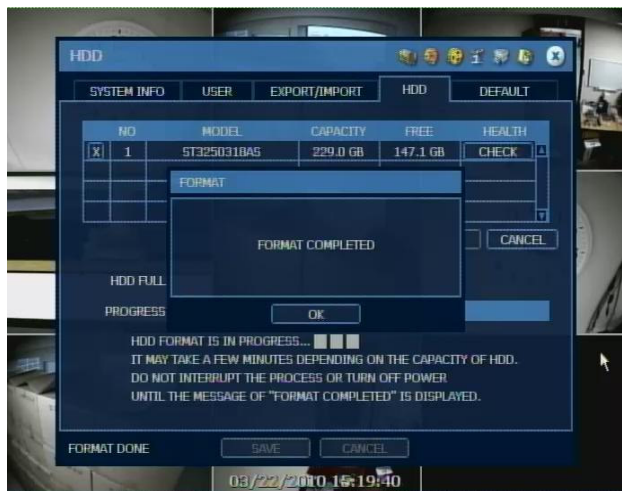
Note	1) It may take around 3 minutes to format HDD.
	If takes a long time please check the status of HDD
	2) The system always reserves maximum 5GB space in each built-in HDD to effectively utilize archiving memory.

WARNING MESSAGE

To achieve high-level system stability, warning message as below will be popped up when temperature inside the system exceeds optimum range. This problem may be driven from mal-function of ventilation fans. In this case, user shall inspect if the cooling fan is properly working, or ambient temperature around the system is properly kept.

3.1.5. Factory Default

With authorized password, user can get the system back to factory default configuration.
Upon clicking "OK" button, you need to input password of admin, then all the configuration values made by user will be deleted.

The system setting will be originated by factory defaults. However, video data recorded are protected.

COLD REBOOT (Factory Default)
If the system is not properly operated during normal operation, booting or shutdown process, user can activate cold reboot (factory default) by using "RETURN" button on front panel.
Keep pressing "RETURN" button for **"about 30~45 seconds"**. Then, the system reboots and whole configuration will be restored to factory default value.

3.2 Device

3.2.1. Camera

User can easily move to "Device" menu by selecting the icon in right-up side of the menu screen. "Covert" is to hide camera display and playback as if there is no camera recording, so called "hidden camera" feature. Default motion area setup is to select entire camera area.
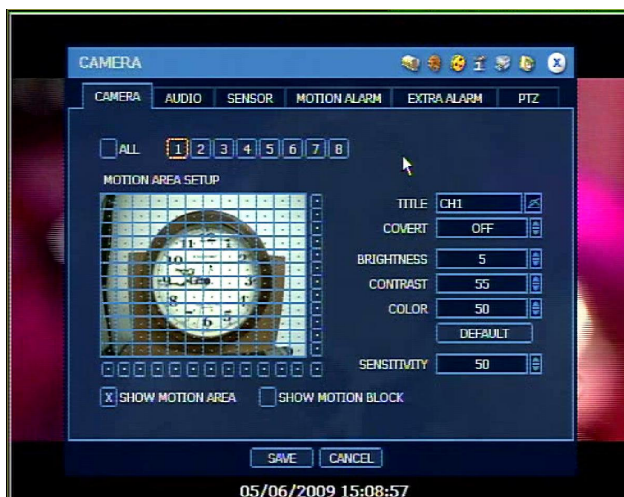
3.2.2. Audio

User can select audio input and output during live display, and match the audio input to a designated channel. No of audio channel may differ depending on DVR model. User can hear audio sound under both live display and playback mode depending on the system setting. Select "USE 2-WAY AUDIO" to make voice communication between DVR and remote side.
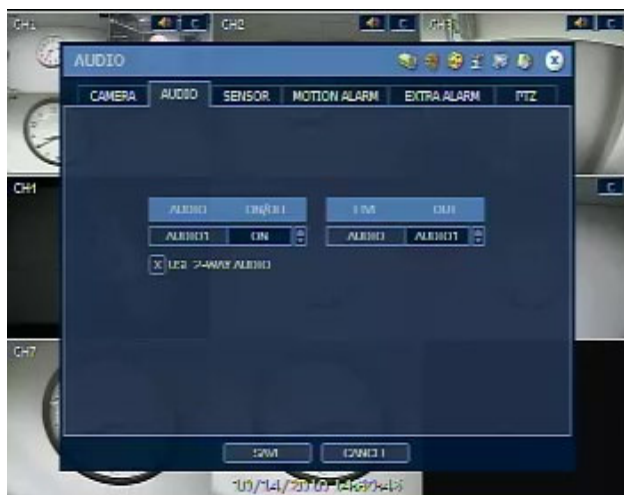
Note   Please refer to "Section 3.3.1 Camera Record" for details.

3.2.3. Sensor

User can install multiple sensors on the system to get the pre & post alarm recording and intensive recording function as well.

ON/OFF
Turn on or turn off the sensor

CAM
Select the associated camera

OUT
Select the associated alarm output

Caution	Relay contact can stand up to 24V/1A. In case that it is connected to the external circuit which is over 24V/1A, it can cause a problem on the system.

INTENSIVE RECODING
When alarm is triggered, system instantly assigns "remained fps" to alarm-triggered channel and increases recording speed during the selected dwell time, and also will trigger alarm signal via the selected sensor-out channel. The recording speed of all other channel will remain unchanged.

PRESET
User can select the camera to move to preset position, once the sensor is triggered. (User should setup preset position in PTZ menu 4.2.6 in advance)

DWELL (Post Alarm)
Set the recording period from the start of sensor input activation. During this period, the corresponding camera image will record according to the frame and alarm (relay) output set. The recording stops and alarm output is turned off when the setting period is elapsed.

PRE-ALARM
Set recording period in seconds just before perceiving sensor input up to 3 seconds of time length.
The system records in certain seconds of time prior to the time that alarm is activated, so that user can search video even before alarm is triggered. The pre-alarm recording mode is always "continuous" at the recording speed that user sets in "record" of "camera" menu.

TYPE
Select the sensor type between N/O(Normal Open) and N/C(Normal Close), connecting to alarm input plate. Circuit of N/O type is usually open, and the activation of the sensor occurs at the time of close, and N/C type works the reverse way.

NOTIFY
User can select how to be alerted upon sensor is activated or motion is triggered by pressing "NOTIFY" button.
The system will generate buzzer sound in the selection of buzzer and/or make pop-up screen of the camera in the selection of camera pop-up.
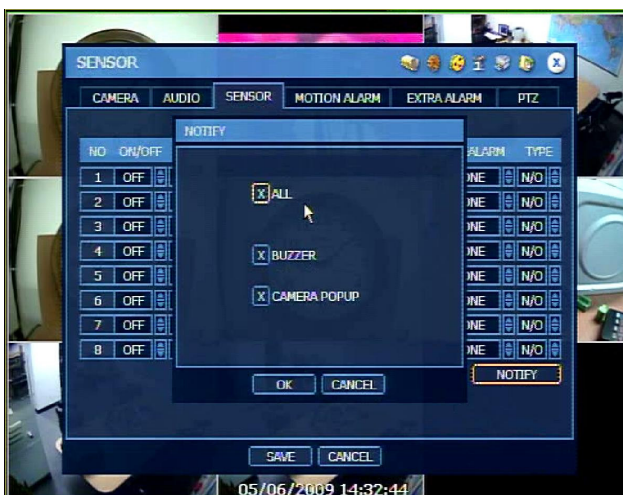
Note	Check the setting of the sensor type (N/O or N/C). It is recommended to use "Dry Contact Type" while "Wet Contact Type" may cause the damage to the system. The alarm might not function if the used sensor type and the system setting are inconsistent.

Note	"Camera pop-up" means that multi-screen live video mode will be switched to single channel mode automatically upon alarm triggered. This single channel video is the channel triggered by alarm.

3.2.4. Motion Alarm

Motion alarm is to start the recording when motion is detected by installed camera based on the area setting. The system will trigger alarm signal via the selected sensor-out channel.
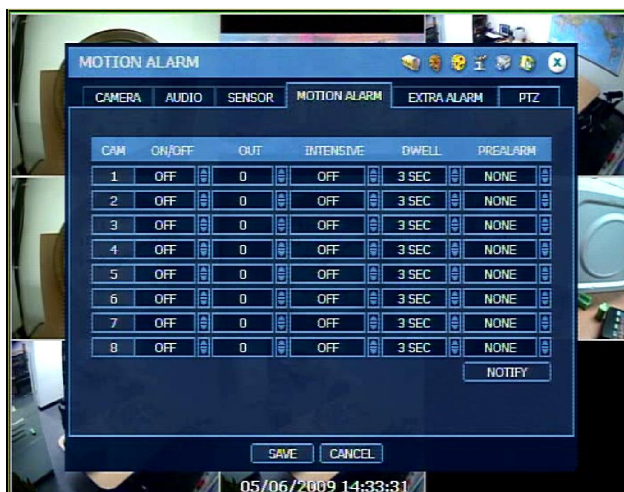
3.2.5. Extra Alarm

There are several alarm functions available on the system such as SMART, VIDEO LOSS, RECORDING FAILURE and HDD FULL.

S.M.A.R.T. alarm is to trigger alarm signal when HDD might be about to be out of operation. Refer to the "Section 3.1.4 HDD > HDD CHECK" to check the HDD status.
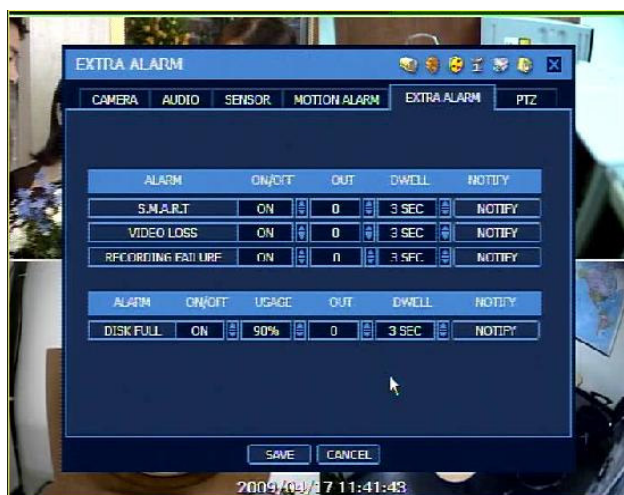
3.2.6. PTZ

Full control of PTZ camera is available in this menu.
For details, please refer to Section 3.3 PTZ Operation.

M (Depending on the model of PTZ camera)
If selected, the OSD menu of PTZ camera is imported and shown on the DVR monitor and hence user can make full PTZ setting.

PROTOCOL
Select the proper protocol of the connected PTZ camera.

ADDRESS
Set the P/T/Z driver address of the connected camera.

Check the below items for proper P/T/Z operation.

- Check if the protocol of the connected PTZ camera is correct.
- Check if the communication setting including baud rate of the connected PTZ camera is in accordance with the assigned value for that P/T/Z protocol.
- Check if the address of the connected PTZ camera is correct.
- Check if wiring to P/T/Z controllers is correct.

Procedure   How to setup PTZ camera with Pelco-D protocol (example)
1) Make sure of serial communication with the PTZ camera through RS-485 port.
2) Select "Pelco-D" in the protocol list, and set address.
3) Click "Save" button to confirm this configuration.

PRESET
The system supports the number of preset from 1 to 255.
But it can be restricted by the number that PTZ camera supports.

BAUD RATE
User can select the baud rate level from 2,400bps up to 57,600bps.

3.3   Record

3.3.1. Camera

ON/OFF
It is to switch "recording" on and off in each channel. If recording is not required on the selected channels, even when the camera signal is inputted, set the recording of the corresponding channel as [OFF]. Then, recording of the channel stops without pulling camera BNC cable off. [ON] or [OFF] can be selected. The default is [ON].

FPS
It means "Frame" consisting even and odd fields per second. The system automatically calculates "Remained FPS".

RESOLUTION
It means required horizontal and vertical pixel number of a page. The resolution is indicated as (horizontal) X (vertical) pixel number. Thus, select one setting from 352×240/288, 720×240/288, 720×480/576. Default is 352×240/288. As the resolution number increases, the picture quality is higher. In fact, 352×240 is VHS level and when high quality camera is used, 720×480/576 show DVD level picture quality. When the picture quality gets higher, the storage capacity is bigger and the recording period will be shorter. Thus, selecting appropriate resolution according to the situation is important.

QUALITY
The setting value of "Quality" directly influences the byte size per image. For example, the byte size decreases as quality goes lower. In this case, blocking (mosaic) phenomena tends to appear, which is resulted by high compression. In contrast, blocking phenomena disappears as quality goes higher. In this case, the required storage space per image increases, which leads to shortening of total recording period. Therefore, give consideration to the necessary recording period, importance of each camera image, and quality of analog signal when setting the recording quality.

AUTO DEL (Auto Delete)
It means that the system will delete video whatever is recorded longer than the number of days set by "Auto Del" in accordance with privacy regulation in certain country.

DUAL STREAM

DVR can simultaneously generate two independent video streams (one for local recording and the other for network transmission) for user to effectively manage recording image quality and network traffic. The frame rate and resolution for each stream can be independently set, for example, user can make recording setup as "30fps at D1 resolution" while the network setup as "just 1 fps at CIF resolution". Select "USE DUAL STREAM" in order to use this function. The resolution of network stream should be set equal to or lower than recording stream.

	Note	
	Note	"Auto Del" does not guarantee the number of recording days that user set. For example, even though user sets 10days in "Auto Del", if HDD space is not enough, then the system can not record up to 10days. This feature is not to keep video data for a certain number of days set by user. If user sets 10days in "Auto Del" on August 20 for the system that has, for example, 30days of video data, then the system will keep video from August 11 to August 20 for 10days. All other video recorded before August 11 will be deleted by the system. On August 21, the system will keep video from August 12 to August 21 for 10days.

	Note	
	Note	The storage capacity for the same image will be different. Image per byte is ratio to the image dimensions (horizontal x vertical), thus 720×240/288(2CIF) is twice the size of 352×240/288(1CIF) and 720×480/576(D1) takes about 4 times the storage capacity. Therefore when high resolution is selected for the same period, the storage capacity taken up will be larger and the storage period will be shorter on the same Hard disk capacity.

	Note	
	Note	The system usually have maximum operational burden in work-load for highest picture quality setting. Thus, the maximum recording speed up to 200fps(PAL)/240fps(NTSC) might not be guaranteed in highest picture quality mode, which means there might be some frame skipping phenomenon sporadically.

	Note	
	Note	"HELP" button will help you understand how to setup several important settings. For example, if you need help about how to set Camera, click "HELP" button.

3.3.2. Schedule

Set recording schedule for each camera. First, select the camera to set schedule, or "All". Recording can be set by each hour from 00 through 23 a day.

NO COLOR (Off)
"Off" means no recording. Even though user set recording frames and on in "CAMERA", the system will not record anything if user sets "OFF" in SCHEDULE.

YELLOW COLOR (Continuous Recording)
In continuous recording mode, the system records all the time as set by "CAMERA".

GREEN COLOR (Motion-Detection Recording)
In this mode, the system records only when motion is detected in the motion area, and stops recording when motion is not occurred. In addition, user can make motion recording configuration in "MOTION ALARM" of "DEVICE" menu.
If user sets "OFF" in "MOTION ALARM" of "DEVICE" and sets "MOTION" in "SCHEDULE", then the system will record when motion is detected but motion alarm is not activated.

ORANGE COLOR (Sensor-Activated Recording)
In sensor mode, the system will record when sensor is triggered only during dwell time as set in "SENSOR" of "DEVICE" menu.
If user sets "OFF" in "SENSOR" of "DEVICE" and sets "SENSOR" in "SCHEDULE", then the system will not record anything even though a sensor is triggered.

SKY BLUE COLOR (Continuous + Motion Detection Recording)
The system records all the time by "continuous" as set by "CAMERA" of "RECORD" but will switch recording mode to motion configuration as made by "MOTION ALARM" of "DEVICE" if motion is detected in motion area. The system also will notify "motion event" message to Remote Manager PC over the network.
If user sets "OFF" in "MOTION ALARM" of "DEVICE" and sets "CONT + MOT" in "SCHEDULE", then the system will record with continuous recording mode even though motion is detected in motion area.

DARK ORANGE COLOR (Continuous + Sensor-Activated Recording)
The system records all the time by "continuous" as set by "CAMERA" of "RECORD" but will switch recording mode to sensor configuration as made by "SENSOR" of "DEVICE" if a sensor is triggered during dwell time. The system also will notify "sensor event" message to Remote Manager PC over the network.
If user sets "OFF" in "SENSOR" of "DEVICE" and sets "CONT + SENS" in "SCHEDULE", then the system will record with continuous recording mode even though a sensor is triggered.

PINK COLOR (Motion Detection + Sensor-Activated Recording)
The system does not record in normal operation but records only when motion is detected as set by "MOTION" of "DEVICE" and a sensor is triggered as set by "SENSOR" of "DEVICE".
If user set "OFF" in both "MOTION" of "DEVICE" and "SENSOR" of "DEVICE", then the system will not both record and notify to Remote Manager PC or Central Management PC.

Caution	**Dark Blue Color**
	The data recorded during DST (Daylight Saving Time) will be indicated in Dark Blue color in Intelli-Search Bar on playback mode.
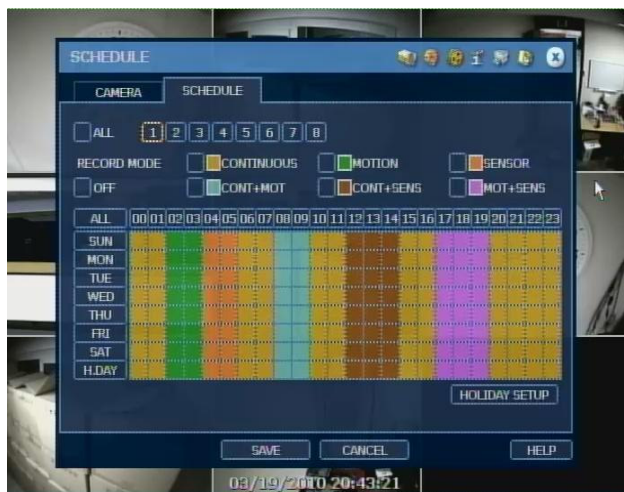
Note In case the recording schedule is set by "CONT + MOT" or "MOT + SENS", then the system records by continuous or motion detection mode in normal operation. However, when motion is occurr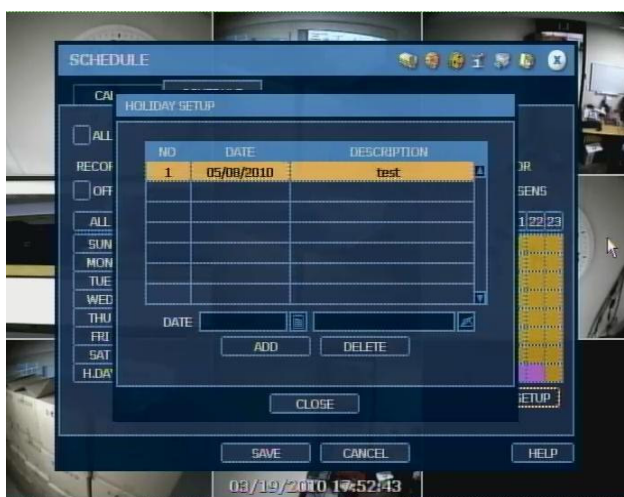ed in motion area or alarm is activated, then recording mode will be automatically switched to intensive recording as set by "MOTION" or "SENSOR" of "DEVICE" menu.

User can add holiday in HOLIDAY SETUP as below picture to up 32 holidays.
Press "DATE" first and write description, and then press "ADD" button to list up holiday.

Note **Instant Recording (Emergency Recording)**
In case of a specific model that has "Instant recording" button in front face, the system will instantly start recording all the channels at CIF resolution up to maximum fps in total when user press the "Instant recording" button. All the channels, regardless of recording mode & recording on/off, are to be recorded.
E-REC is shown in live mode and red-colored bar is shown in the time search bar of playback mode for the video recorded by instant recording.

3.4   Network

DVR can be connected to network or internet through either fixed IP or dynamic IP by proper setting of DVR & router.

3.4.1. Network

NETWORK TYPE
Select either LAN for fixed (Static) IP or DHCP for dynamic IP.

If DHCP is selected, click "IP DETECT" button to get the updated IP address information, then you can see the process on "Progress Bar".

SUBNET MASK
Subnet Mask address classifies the subnet that the system belongs to. Standard address is 255.255.255.0. For more information, please consult your network administrator or your internet provider.

GATEWAY
This is the IP address of the network router or gateway server. It is required when the user wants to connect through external router. For more information, please consult your network administrator or your internet provider

DNS SERVER
Enter the IP address of the Domain Name Server. You should enter the DNS Server information in order to use DDNS, E-mail notify and NTP Server.

TCP/IP PORT
Enter the port number to use when connecting locally or remotely. It is for use with Remote Software P/C (RMS & CMS)

MOBILE PORT
Enter the mobile port number to use when connecting to mobile phones. It is for use with Mobile Software (MMS).

WEB PORT
Enter the port number to use when connecting from the Web Browser and WAP Browser..

UPnP (Universal Plug and Play)
UPnP supports "auto port forward function (NAT TRAVERSAL)" even if the user does not set port forward on the router.

NETWORK BANDWIDTH CONTROL
Depending on the setting made by user, the system can control the data volume transmitted over network ranging from 25 kbps up to 100 Mbps. This function is effective especially under narrow bandwidth network situation or when user wants to refine "network bandwidth occupied by video transmission" to a certain level.
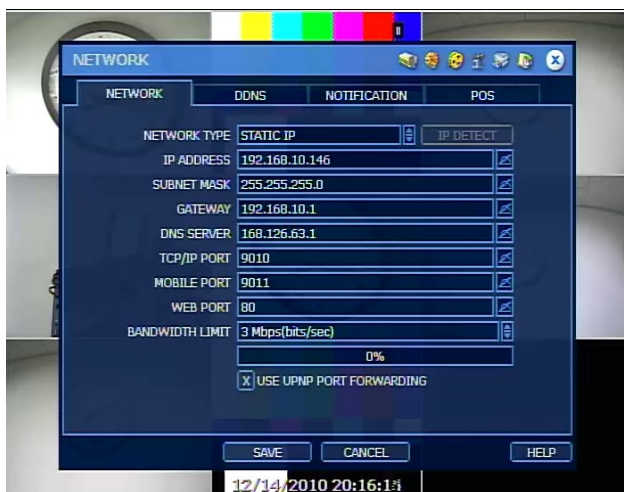
Input necessary information based on your network environment, and then click [SAVE] button.

- NETWORK TYPE   : Select STATIC IP (in case of fixed IP)
- IP ADDRESS   : Assign a local IP # to DVR (ex, 192.168.0.164)
- SUBNET MASK   : Input subnet mask of your LAN (ex, 255.255.255.0)
- GATEWAY   : Input gateway of your LAN (ex, 192.168.0.111)
- DNS SERVER   : Input IP # of your DNS server
                   You must input this IP # for internet connection. Please contact
                   your ISP to get this IP #.
- TCP/IP PORT   : Default is 9010
                   If your ISP blocks the port # 9010, then you need to input another
                   valid port number. (ex, 9020)
- MOBILE PORT   : Default is 9011
                   If your ISP blocks the port # 9011, then you need to input another
                   valid port number. (ex, 9021)
- WEB PORT   : Default is 80
                   If your ISP blocks the port # 80, then you need to input another
                   Valid web port number. (ex, 8080)
- BANDWIDTH LIMIT : Default is 100 Mbps
                   Select your wanted bandwidth limit considering network situation.

Note   The maximum number of simultaneous connection is 13 users.
          8 users for Remote software (RMS & CMS) and 5 users for Mobile software (MMS)

3.4.2. DDNS

Use can use either a public DDNS server or the DDNS server operated by DVR maker
(cctv-link.net) to connect through dynamic IP. It is recommended to use maker's DDNS server for
stable network connection except for WAP connection. In case of WAP connection through
mobile phone, user has to get "Domain Name" registered through a public DDNS server.
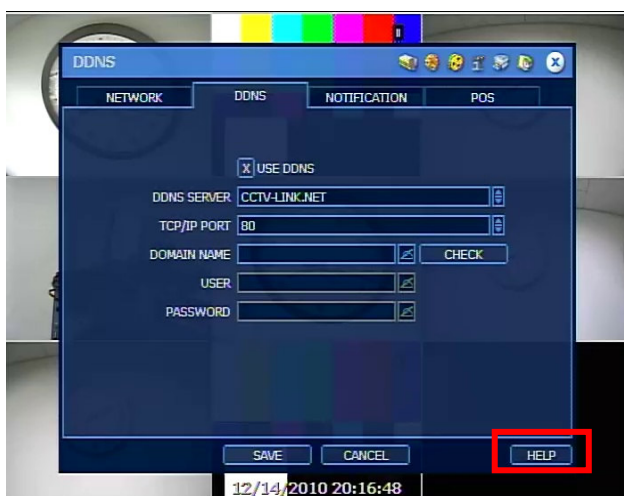
DDNS SERVER
The User has to tick on "Use DDNS" check box.
The default is [**CCTV-LINK.NET]** and user can select [**DYNDNS.COM**] by using drop-down list.
"cctv-link.net" is the fixed domain name of DDNS server operated by DVR maker while
"dyndns.com" is one of public DDNS severs.

Note "HELP" button will help you understand how to setup several important settings.
For example, if you need help about how to set DDNS, click "HELP" button at the right
bottom of the menu.

Input necessary information based on your network environment, and then click [SAVE] button.

- Enable USE DDNS box
- DDNS SERVER   : Select CCTV-LINK.NET
- TCP/IP PORT   : Default is 80
                              If your ISP blocks port 80, then select 8245
- DOMAIN NAME   : Assign domain name for your DVR (ex, abc), then click
                              [CHECK] to confirm whether you can use such domain name.

SETTING AT REMOTEMANAGER S/W
In the menu of [Option > Setting], input DDNS Name and Port #
DDNS is "cctv-link.net" and Port # is 80, which shall be same as the DDNS setting of DVR.
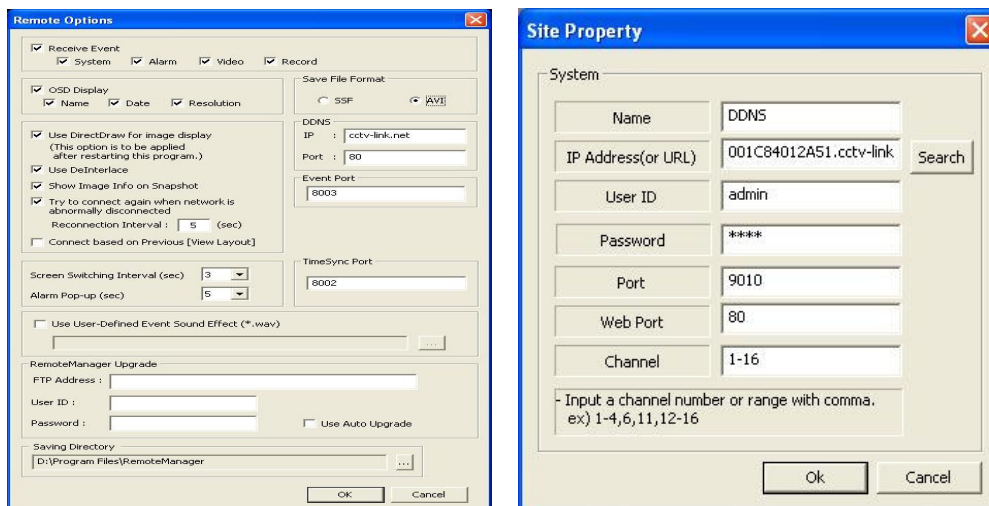
In the menu of [File > Registration], click ADD button to go to "Site Property".
It is very important to put "Mac address + cctv-link.net" in IP Address (or URL) as below.
User can find the right Mac Address of the system in the menu of [System > System Info] of the DVR. The web port shall be 80.

For example, if Mac address is "00:1C:84:01:00:02", then the right IP Address (or URL) in Site Property shall be "001c84010002.cctv-link.net".

SETTING AT M/S I/E
User can type mac address + cctv-link.net. ex) http://00231c381f2d.cctv-link.net.
In case of using sub domain name, user can type domain name + cctv-link.net.
ex) http://[domain name].cctv-link.net

3.4.3. Router Setting (Port Forwarding)

If you want to use router for network connection, you need do necessary Port Forwarding in your router (both static IP and dynamic IP). The procedure described as below is just one of the example for your reference and the captured figures may differ depending on the model of the router. Please refer to the manual of your router for details.

1) Login to your router through M/S IE browser.
2) Go to the menu of [ADVANCED > Port Forwarding]
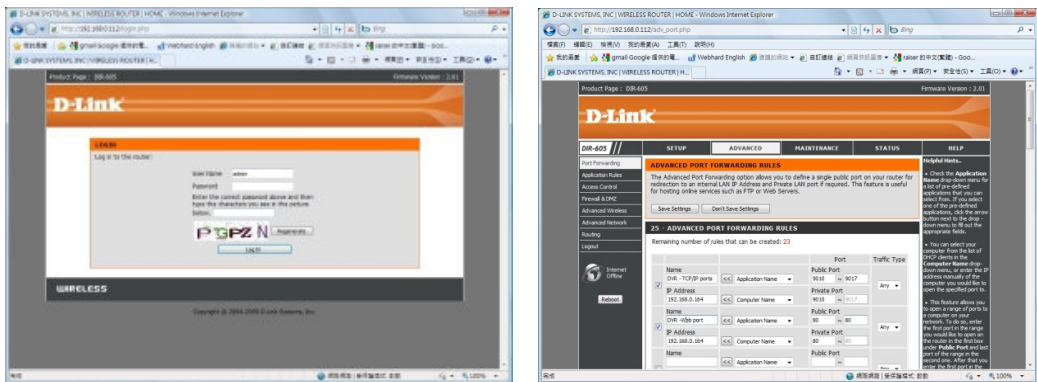
3) Do necessary Port Forwarding as below. (TCP Port & Mobile Port & Web Port)

● For TCP/IP Port of DVR
  If you use 9010 for TCP/IP Port (mentioned as above), then you have to forward Port # 9010 to DVR local LAN IP.

  Note : If you change DVR TCP/IP Port to 9020, then you have to open and do Port Forwarding for 9020.

● For Mobile Port of DVR
  If you use 9011 for Mobile Port (mentioned as above), then you have to forward port # 9011 to DVR local LAN IP.

  Note : If you change DVR Mobile Port to 9021, then you have to open and do Port Forwarding for 9021

● For Web Port of DVR
  If you use 80 for Web Port (mentioned as above), then you have to forward port # 80 to DVR local LAN IP.

Note : If you change DVR Web Port to 8080, then you have to open and do Port forwarding for 8080.

DVR needs several ports to be opened for remote image transmission, configuration, time synchronization and etc.   Please refer to below port list to make sure that those ports are not blocked by firewall or other network setting.

| Protocol	Port	Usage	Remark	Editable	Location
TCP	9010	DVR Data Port (for Remote S/W)	TCP Port	Yes	Network > Network
TCP	9011	DVR Mobile Port (for Mobile Viewer)	Mobile Port	Yes	Network > Network
TCP	8002	DVR Time Sync Service	Need port forward at remote P/C network	Yes	System Info > Date/Time Setting
TCP	8003	Event Notify Socket	Need port forward at remote P/C network	Yes	Network > Notification
TCP	80	Web Service		Yes	Network > Network
TCP	80,8245	DDNS Server		Select	Network > DDNS
TCP	123	NTP Server		Fixed	Network > Network

3.4.4. Notification

REMOTE NOTIFY
The system can notify an alarm message to the IP address of Remote Manager PC over the network.
User can choose various different kinds of alarms by pressing "ADD" for such as Log-in/Out, System start, Sensor, Video loss, Recording failure, Setup, Shutdown, Motion alarm, S.M.A.R.T., and HDD full.
The maximum number of message recipient is 5.
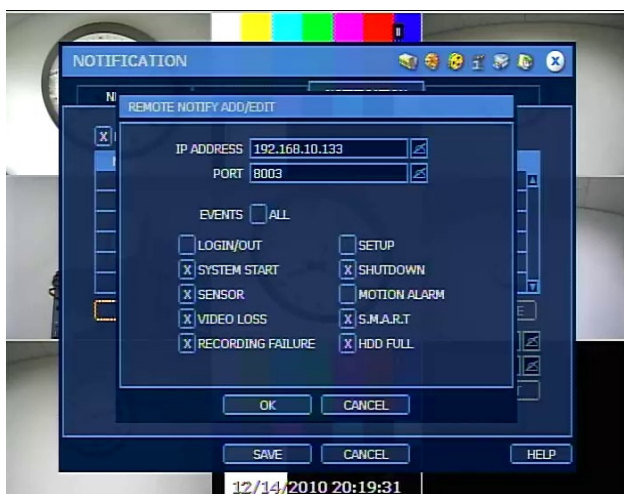
Note Configuration first priority is always on "SCHEDULE" of "RECORD".
Thus, the system will not notify alarm message upon motion alarm or sensor even though user ticks the check-box of above event selection, unless user sets the "SCHEDULE" of "RECORD" and "MOTION"/"SENSOR" of "DEVICE" accordingly.
For example, If user sets just "Continuous" only in "SCHEUDLE" of "RECORD" and tick "All" check-box of "REMOTE NOTIFY", then the system will not notify alarm message.
In this case, user has to set "CONT + MOT", "MOTION", "SENSOR", or "CON + SENS" to enable REMOTE NOTIFY properly.

Note User can set remote pop-up in RemoteManager S/W (RMS) and Central Management S/W (CMS) upon alarm trigger in DVR.
In order for RMS user to receive an instant pop-up video over network from DVR, DVR user has to tick "SENSOR" or "MOTION ALARM" in above menu.
"SENSOR" means the alarm triggered by physical alarm, while "MOTION ALARM" means the alarm triggered by motion detection.

E-MAIL NOTIFY
The system can make an email notification to the IP address of Remote Manager PC and Central Management PC over the network.
User can choose various different kinds of alarms by pressing "ADD" for such as Log-in/Out, System start, Sensor, Video loss, Recording failure, Setup, Shutdown, Motion alarm, S.M.A.R.T., and HDD full. The maximum number of email recipient is 5.

Note Configuration first priority is always on "SCHEDULE" of "RECORD".
Thus, the system will not email alarm message upon motion alarm or sensor even though user ticks the check-box of above event selection, unless user sets the "SCHEDULE" of "RECORD" and "MOTION"/"SENSOR" of "DEVICE" accordingly.
For example, If user sets just "Continuous" only in "SCHEUDLE" of "RECORD" and tick "All" check-box of "REMOTE NOTIFY", then the system will not make email notification.
In this case, user has to set "CONT + MOT", "MOTION", "SENSOR", or "CON + SENS" to enable Email Notification properly.
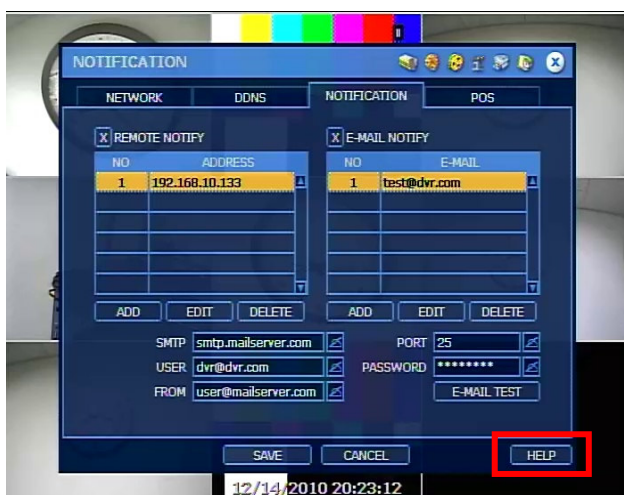
Note   "HELP" button will help you understand how to setup several important settings.
For example, if you need help about how to set Notification, click "HELP" button at the
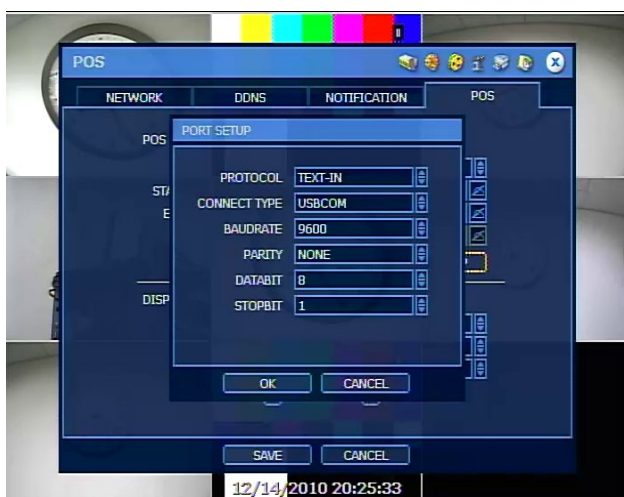right bottom of the menu.

3.4.5. POS Function

POS equipment can be connected to DVR through RS-232 port. If a certain model of DVR is not
equipped with RS-232 port, user can use USB port to connect POS equipment by using
"USB-to-COM/Serial Converter". For details, please contact your dealer.
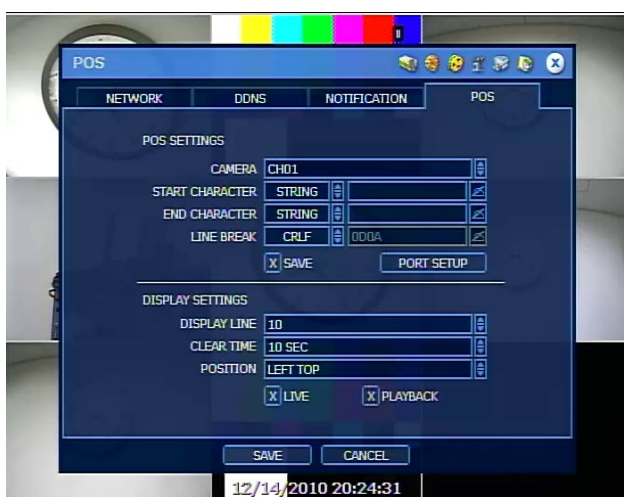
- CAMERA   : Select the camera to link with POS equipment.
- START CHARACTER   : Input the assigned character to start display and save.
                                         If no input, the system will display and save all data.

- **END CHARACTER**   : Input the assigned character to terminate display and save.
- **LINE BREAK**   : Set line-break character.
                              It should be 16 digits HEX Value.
  - > [CRLF] / [CR] / [LF] : The character that is generally used in ASCII-type POS
                              Please contact POS manufacturer for details.
  - > [Custom]   : It can be used except for above general character.
                              Only number(0 ~ 9) and alphabet(A ~ F) can be used and
                              even numbers should be input.
                              ex) Hexadecimal : 0x0D 0x0A → 0D0A
- **SAVE**   : Select to save POS data.
- **DISPLAY LINE**   : Set the number of line to be displayed on the screen.
- **CLEAR TIME**   : Set the time period to be displayed on the screen.
                              The data will be deleted if no more data is input after the
                              setting time here. If it is set as "0", the data will not be
                              deleted.
- **LIVE**   : Select to display POS data in the live mode.
- **PLAYBACK**   : Select to display POS data in the playback mode.
- **PORT SETUP**   : Setup condition for RS-232 communication.
                              Click to display the screen as below. All the values must be
                              Set same as the POS equipment.

- **PROTOCOL**   : Assign protocol type.
  - > [TEXT-IN]   : Text input type protocol.(ASCII character)
  - > [SDVR-POS]   : Manufacturer's own protocol.
                              Please contact your POS dealer for details.
- **CONNECT TYPE**   : Setup communication port type.
  - > [COM]   : COM(RS-232) port.
  - > [USB-COM]   : USB to COM (RS-232) port device.
- **BAUDRATE**   : Set BAUDRATE.
- **PARITY**   : Set PARITY.
- **DATABIT**   : Set DATABIT.
- **STOPBIT**   : Set STOPBIT.

3.5 Backup

3.5.1. Manual Backup

User can archive video clip recorded for certain period for a selected channel or channels as below picture. Connect an appropriate USB memory device like USB thumb drive, built-in CD or USB ODD burner and press "SCAN" button to get the system recognize it before actual archiving. Necessary file size will be shown before burning.

User can leave ticking in the check-box of "ADD VIEWER" to automatically put in an executable viewer file of EXE format in order to help user play the video clip without installing program in his/her computer.
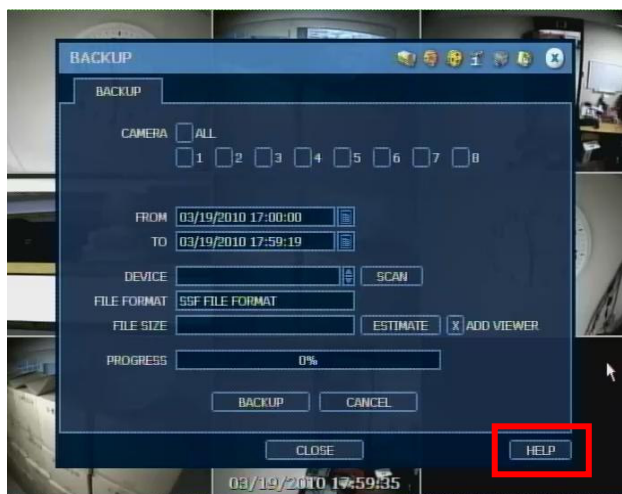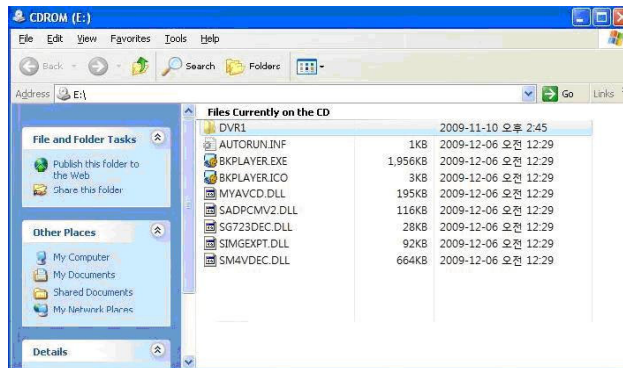
3.5.2. Backup Video Retrieve

After archiving, there would be multiple files created as the picture below if "ADD VIEWER" was selected. User can double click "MultiBackupPlayer.exe" file and open the video data file (SSF format) in the folder of date. The folder is named by the date recorded.

User can drag and drop a SSF file (Video data file) to the empty screen of MultiBackup Player to begin video play. Files and folders saved in the PC are shown in the left tree box.

User can print out, capture a still image, and zoom-out by using the icons on the bottom-left of the player window.

OPTION MENU

Various settings for DirectDraw, Deinterlace & Audio Playback are available in OPTION window.

- **Use DirectDraw**
  There are some PCs that do not support "Direct Draw". In this case, user can uncheck the DirectDraw check-box in the "Option" menu.

- **Use Deinterlace**
  Users can check or uncheck "De-interlace" function.
  De-interlacing feature is widely required for smooth playback of video that is recorded by 720x480/576 (D1) resolution. The picture comparison below is how they are different between "Interlace" video and "De-interlace" video clip.

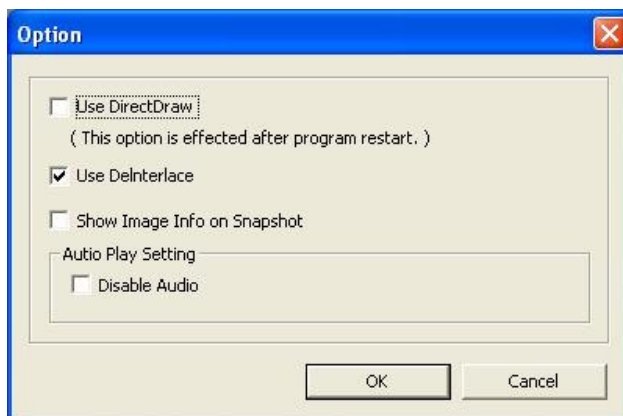**[De-Interlace Image]**   **[Interlace Image]**

- **Show Image Info on Snapshot**
  Image information can be shown on snapshot.

- **Audio Play Setting**
  Audio sound is set as default under video playback mode. If you do not want, select "Disable Audio".
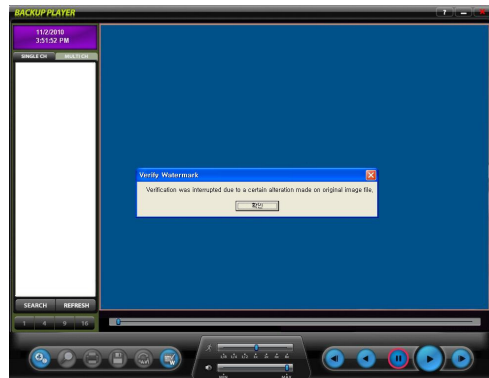

WATERMARK Verification on AVI File

User can convert this backup file from SSF format to AVI format in RemoteManager S/W, so that user can playback AVI file in ordinary Window Media program. Refer to the user manual of RemoteManager S/W for AVI conversion details.

When playback AVI video clip in BackupPlayer, user can verify whether the AVI file has been altered or not by pressing "Watermark" button
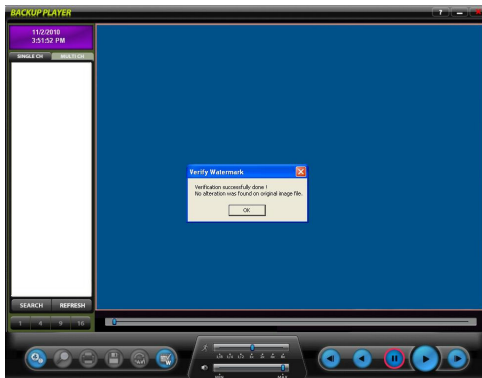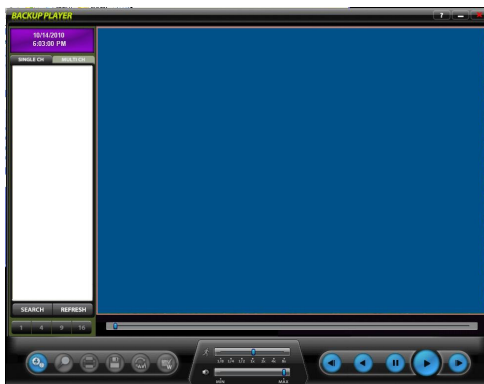
No alteration was found on original **AVI** video clip.	**AVI** video clip has been altered.

Note MultiBackup player supports two modes. (SINGLE CH , MULTI CH)
    1) Single-Channel Mode
        > It shows SSF files in a selected folder.
    2) Multi-Channel Mode
       > It shows SSF files and folders in the PC.


3.6   Quick Setup

Quick Setup is to help user make easy configuration for recording resolution, recording speed, recording mode, recording quality and recording periods based on the capacity of HDD installed.

The setting made by QUICK SETUP will get the first priority to apply on the system whatever user sets configurations in other menu.

USE QUICK SETUP

If user ticks in the check-box of USE QUICK SETUP and designate the "Desired Recording Period", then the setting value for recording resolution, fps and quality will be optimally adjusted to get the similar recording period set in the box of INPUT DESIRED DAYS. Furthermore, user can adjust the setting value at CUSTOMER SETTINGS by manual input finally to get the "Recordable Period" at DAYS TO RECORD based on the capacity of HDD installed.

Recordable period calculated by QUICK SETUP is just for reference and may vary depending on the actual site situation.
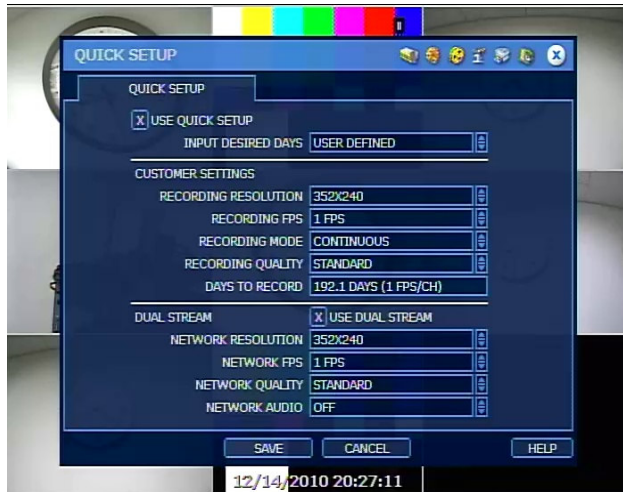
4. Web Surveillance through M/S IE

The system has built-in web server by itself.
Thus, user can be connected to the system by ordinary web-browser via network for live monitoring, playback or remote configuration without installing RemoteManager software.

4.1 Web Login

User is required to put the right IP address in the web browser after getting the web port available by router.

After allowing the download of the Active-X file, user can find the log-in page view as below. Default USER ID and PASSWORD are "admin" and "1234".
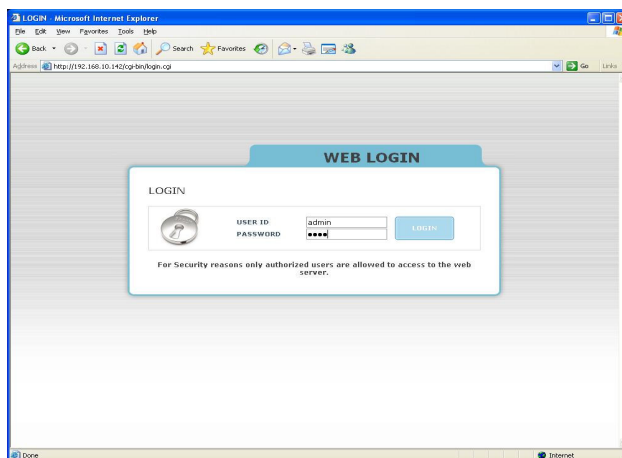
4.2 Web Configuration

[Menu of Web Configuration]

Main Classification	Sub Classification
SYSTEM	SYSTEM INFO
	USER
	FACTORY DEFAULT
	SYSTEM REBOOT
DEVICE	CAMERA
	AUDIO
	SENSOR
	MOTION ALARM
	EXTRA ALARM
RECORD	CAMERA
	SCHEDULE
NETWORK	NETWORK
	DDNS
	NOTIFICATION
QUICK SETUP	QUICK SETUP

After log in with the right ID and password, user can make various configuration in Web Configuration window as below.   This Web Configuration is only available to "admin" account.

[System]

[Device]

[Record]


[Network]

[Quick Setup]

| Note	This DVR system has its own built-in web server.
	Therefore, this web CGI screen is directly supported from the built-in web server of DVR regardless of Internet connection.

> **Note** System Reboot enables user to reboot the system without any change of the setup. User can use this function when the network is disconnected due to abnormal operation of the system and try to reconnect. However, IP number assigned to the system may be changed in case of DHCP mode.

4.3   Web monitoring

User has to download Active-X file from DVR and install it at workstation P/C before monitoring live video.
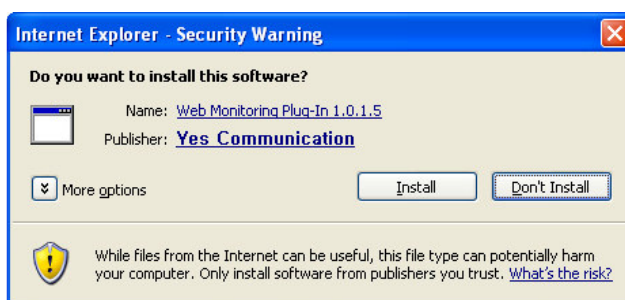

In order to download Active-X file from DVR without any problem, "Security Setting" of IE web browser has to be properly made.   Select "Tools > Internet Options > Security > Internet > Custom Level" in IE menu and enable all Active-X controls and plug-in as below photo.
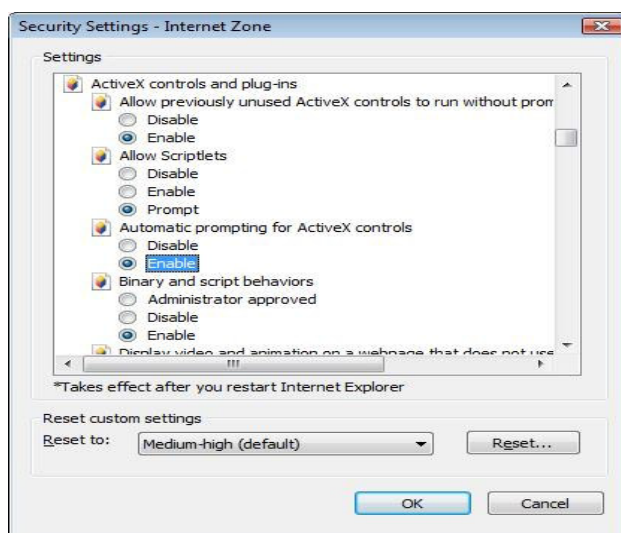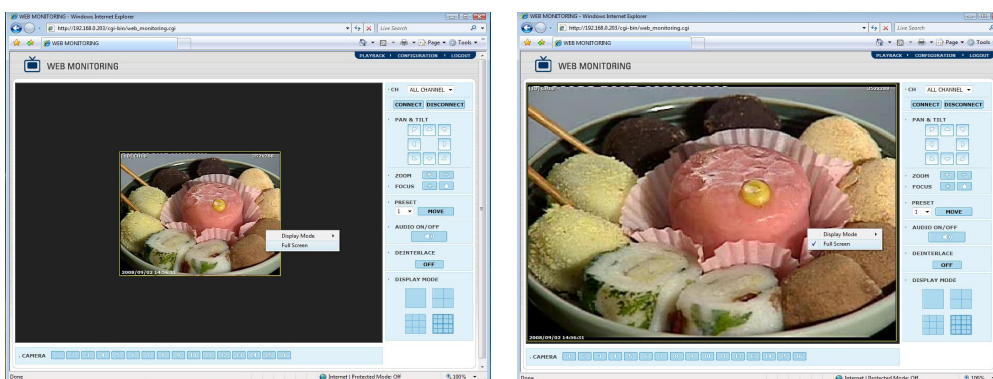

User can get into web monitoring by clicking "WEB MONITORING" button in the right-top corner of the window. In order to connect to DVR, user has to select the number of channel or select "ALL CHANNEL " as below, and then click "CONNECT" button.

User can monitor live video in 1, 4, 9 or 16 screen mode. If user wants to see single channel in full screen, then user can make double-clicks of the left mouse button positioned on the live video screen.
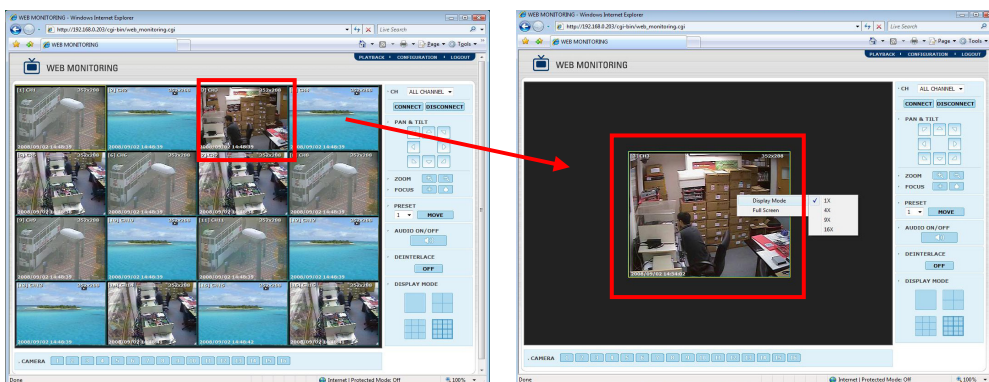

The image resolution in "Live monitoring" in this web browser is directly transferred from DVR. Therefore, user will see original resolution size set in DVR in single channel mode. In order to get full screen of CIF (352 x 240/288) video size, then user has to click right button of the mouse, and select "Full Screen" menu.

4.4   Web Playback

User can remotely playback the DVR images by clicking "PLAYBACK" button in the right-top corner of the window. In order to connect to DVR, user has to select the number of channel or select "ALL CHANNEL " and then click "CONNECT" button.
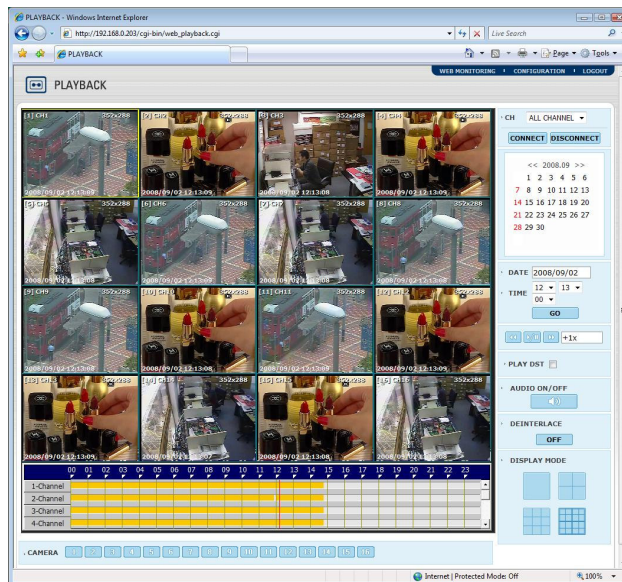
PLAYBACK TIME
Select the date and time and click "GO" button.

PLAYBACK ICON
Play/Pause is toggled and playback speed is shown on the right box.

PLAY DST
Check this box to play overlapped images during DST (Daylight Saving Time) period.
For details, please refer to Section 3.7 (DST Setting and Image Playback)

INTELLI-SEARCH BAR
User can move the red-vertical line to the time that user wants to search.
The colors of the time bar are different by each recording mode. Please, refer to Section 4.3.2 for details on colors.

5. WAP Connection

WAP (Wireless Application Protocol) is a system which allows devices such as mobile phones to connect to the Internet. If user wants to connect to the DVR especially under narrow-bandwidth network situation by sing 3G cellular phone, it is recommended to use WAP connection.

It is the most simple and convenient way for mobile viewing because there is no need to install any client software in the phone. Just type in IP address on the phone, then clear JPEG image is automatically refreshed by about 5 seconds interval depending on the network situation.

5.1   How to Input IP Address

1) Input the IP address on the phone with following format.
    ● http://DVR IP/wap/index.html
    ● ex, http://123.123.123.123/wap/index.html
2) WAP Service is provided through web port (default: 80). If user has changed web port other than 80, then input the IP address as below.
    ● If the port number is changed to "8088",
    ● http://123.123.123.123:8088/wap/index.html
3) If you want to connect through DDNS, you have to get "Your Domain Name" registered through public DDNS server (Please refer to www.dyndns.com for registration). After that, enter necessary information in the DVR menu.
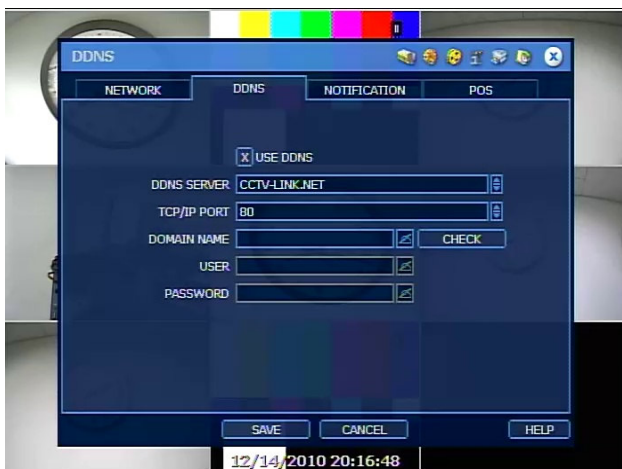
    ● DDNS Server   : DYNDNS.COM
    ● Domain Name   : Registered domain name
                       yourdomainname.maindomainname
                       (ex, yourddnsname.dvrdns.org)
   ● ID & Password : Same ID & Password registered in public DDNS server

    Input the IP address on the phone with following format.
                http:// yourddnsname.dvrdns.org/wap/index.html
4) Depending on the phones, image may not be refreshed because the downloaded image is stored in the cache. In this case, click [Refresh] button.
5) Mobile phone should support "WAP 2.0 or higher.

5.2   How to Setup at Windows Mobile O/S Phone

1) In Windows Mobile menu screen, execute Internet Explorer.
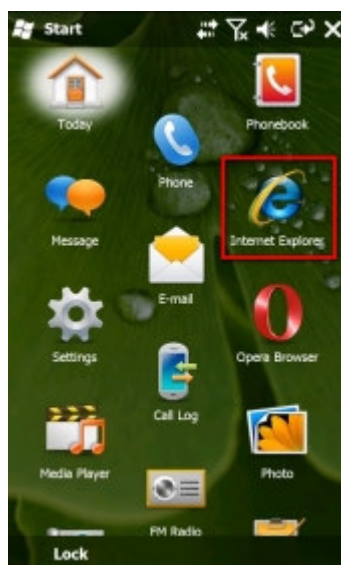
2) Input IP address with following format.
    http://DVR_IP/wap/index.html (ex, http://123.123.123.123/wap/index.html)

3) If connection is successfully made, [Mobile Viewer Login] window will show up, then input User ID and Password (same one in the DVR menu)

4) Click Camera # to get the video image
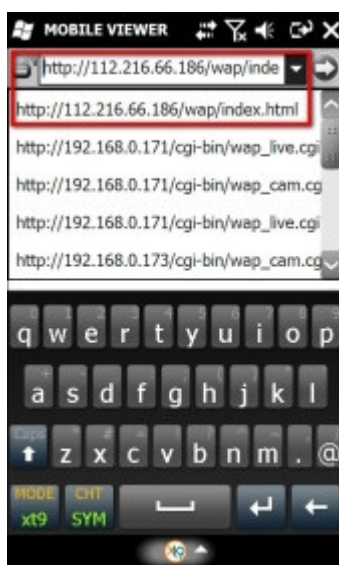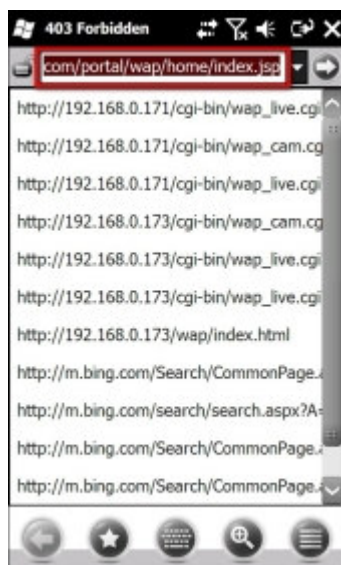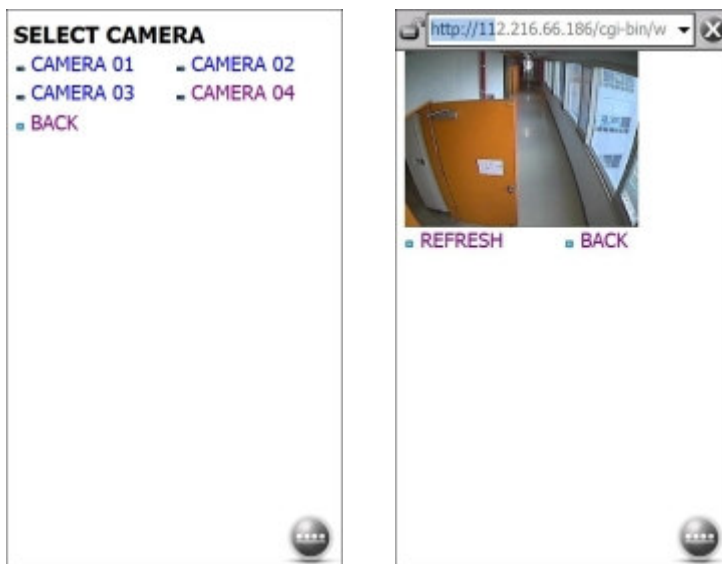JPEG image is shown and refreshed by about 5 seconds interval depending on the network situation. Depending on the phones, image may not be refreshed because the downloaded image is stored in the cache. In this case, click [Refresh] button.

5) If you want to change Camera #, click [BACK] button and then select new Camera #.

6. Q & A

1. DVR doesn't record images in sensor mode and/or motion mode.
1) It records images only when there is an event for the corresponding mode.
2) Please check if the setting is correctly done at the menu of [Device > Sensor] and [Device > Motion].

2. There is a HDD installed but "No HDD" icon( ) is still shown on the screen.
1) Please check the cable connection of the HDD again.
2) If you can see the HDD list at [System > HDD] but the capacity indicates "0", it means that the HDD requires format.

3. There is nothing displayed on the VGA monitor though electric power is supplied to DVR.
1) Please check if the power is supplied properly. When the power is supplied, you can hear the noise from FAN and HDD operation.
2) Please check the VGA cable connection with the DVR. Remove all the cable connections, except for the monitor cable, and then apply power to the DVR again and check booting status.
3) In case that the display screen is stopped at logo screen (H.264 Digital Video Surveillance System), please contact your dealer or distributor.

4. How to make PPPoE connection (xDSL, cable and so on) ?
1) There is no function to log-in at the DVR.
2) Please use the router which supports PPPoE log-in.

5. Is it necessary to open the port when using DDNS (cctv-link.net, dyndns.org) ?
Yes, it is.
DDNS is the function to let remote software acknowledge the changed address of the DVR (dynamic IP provided by ISP) or to allow connection to the DVR by sub domain (sub domain.cctv-link.net) without memorizing IP.

6. Remote software connection to the DVR works fine but WEB connection doesn't work.
1) Some ISP blocks port number 80. Please try again after changing WEB port. (8080 is recommended.
2) Please check whether the port number 80 is opened or not.

7. Image is not shown after login at WEB monitoring
TCP Base port should be opened. Default of TCP base port is 9010.

8. No image is shown on MMS connection
Mobile port has to be opened for MMS connection (Default port no is 9011).

9. Image on remote software is suddenly disappeared after displaying for a short time.
1) Some ISP restricts upload data/traffic volume. Please contact your ISP.
2) Upload traffic restriction can be easily checked with the following steps.
   > Turn off the power of Modem & Router.
   > After some time (1~5minutes), turn on the power of Modem first and then Router.
   > After reconnection, if it is disconnected again after a shot time (in a similar period later), it means that the ISP restricts upload traffic.

10. Backup or firmware upgrade through USB memory stick cannot be made though it is detected by the DVR.
   1)   USB memory stick should be formatted by FAT or FAT 32.
   2)   It is not allowed to use the partitioned and/or password-encoded USB memory

11. No firmware upgrade by using CD.
   1)   DVR detects the files only when they are in root directory.
        Files in sub folder cannot be detected.
   2)   It is recommended to upgrade firmware with USB memory stick.

12. Time sync through NTP server doesn't work.
   NTP server requires DNS server address. Please check if DNS server address is correct at [Network] tab.

13. E-mail transmission doesn't work in using E-mail notify function.
   1)   E-mail notify function works based on SMTP service.
        Please check if the sending mail address is correct and if the mail server supports SMTP service.
   2)   DVR does not support the SMTP service which is based on TLS authentication (including SSL) such as gmail and yahoo mail.
   3)   SMTP service is provided based on DNS. Please check if the DNS server address is correct at [Network] tab.

>>>>>   The End   <<<<<<